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Financing MBTA Operating Costs

Alternatives for the Future

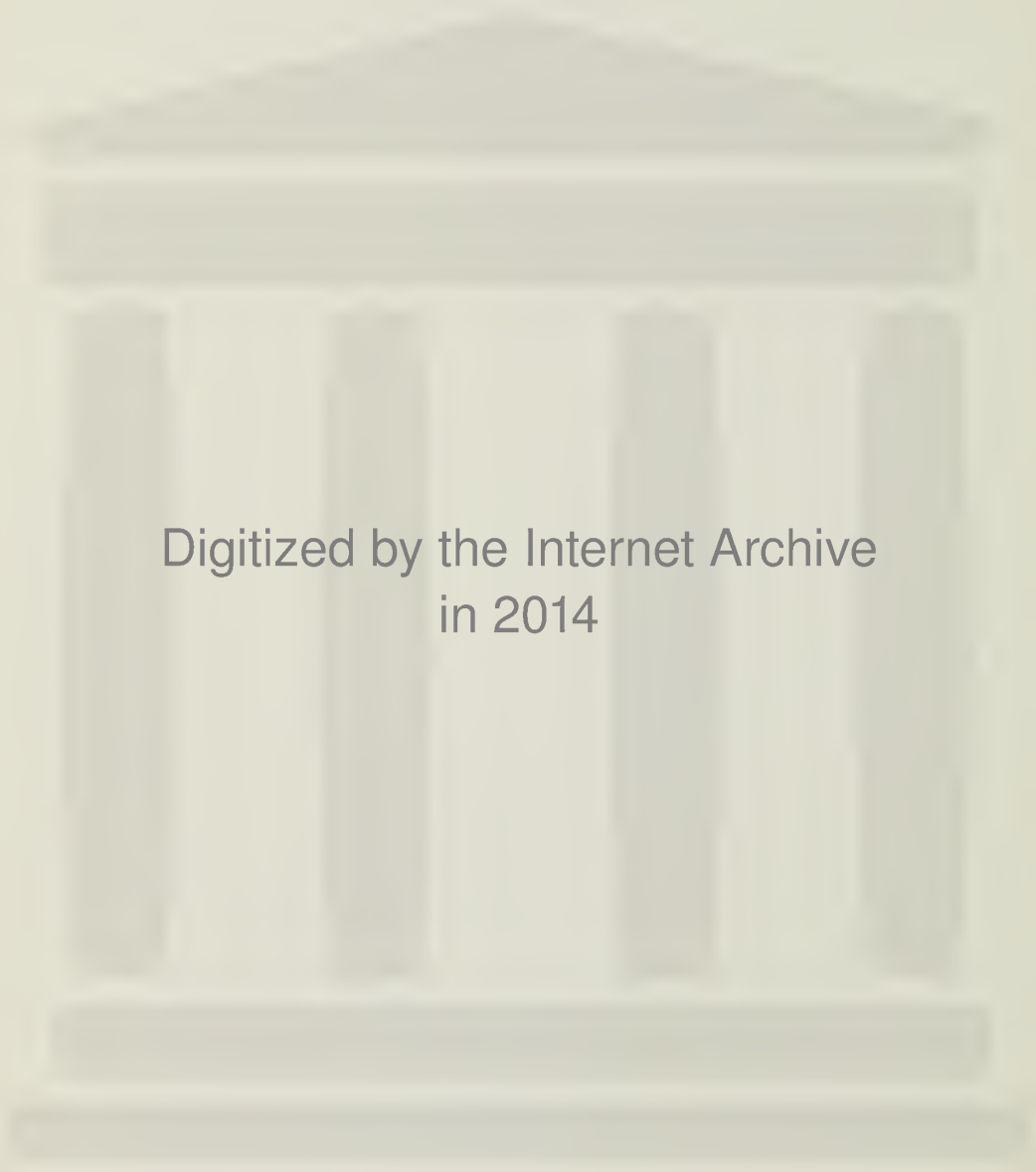
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Future MBTA Service and Funding Alternatives, Volume II

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Financing MBTA Operating Costs Alternatives for the Future

Prepared for
MBTA Advisory Board

Author: Karen Dacey

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January, 1989

Preface

This monograph, the second in the four volume series Future MBTA Service and Funding Alternatives, was prepared for the MBTA Advisory Board by Karen Dacey, an independent consultant. It is based in large part on a series of technical papers prepared for the Advisory Board by Multisystems, Inc. of Cambridge. The Multisystems papers are available as a technical appendix to this study series.

The study series was funded by a grant from the Urban Mass Transportation Administration of the U.S. Department of Transportation. The alternatives presented in the four volumes will be reviewed by a public panel whose purpose will be to recommend changes in how the T is financed and/or how communities are assessed for T services.

The four volumes in the series were prepared during 1986-1988 under the direction of Advisory Board staff and a review committee of Advisory Board members. Reviewers Henry Hersey and Michael Burke completed their tenure as designees before the study was finished and in early 1988 Maryann Foley followed Carol Wallace as Project Manager.

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CHAPTER I: INTRODUCTION

In 1986, the MBTA Advisory Board, sponsored by the Urban Mass Transportation Administration (UMTA), began a strategic planning project designed both to examine current service and funding policies for the "T" and to recommend future courses of action. This report represents the "funding" component in the Advisory Board's "Future MBTA Service, Cost, and Funding Alternatives Study."

Composed of representatives from the 78 cities and towns of the Massachusetts Bay Transportation Authority District, the Advisory Board has the power to review, approve or modify the annual operating budget prepared by the MBTA Board of Directors. In the past, the Advisory Board has been confronted with budgetary crises, forcing them to demand managerial and fiscal changes in the face of threatened work stoppage or impending financial chaos. In an effort to reverse this historical trend, the Advisory Board has determined to prepare for the coming years during a period of relative calm and stability at the "T."

Currently, the annual cost of operating the MBTA is defrayed by a mixture of federal (4%), state (50%), and local finances (21%), as well as revenue generated by passenger fares and miscellaneous operating fees (25%). In recent years, this funding formula has successfully kept pace with the rising costs associated with improved or stable transit service. There are indications, however, that **external** limitations on funding increases at the federal, state, and local levels, coupled with increased demand for public transit, will make this pattern difficult to continue:

1. Substantial new development in metropolitan Boston ensures the need for expanded MBTA services.
2. An unprecedented federal deficit casts doubt on the continuing role of the national government in funding the operations and capital improvements of local transit.
3. Recent referendum-imposed state and local tax caps may constrain revenue available for funding all state programs.

In addition, two **internal** factors threaten the long-term stability of "T" financing. Under the present funding system, there is an assumption-- dating from the time when the cities and towns of the MBTA district paid the lion's share for public transit-- that those who foot the bills will demand fiscal restraint and accountability from management. As the state, however, assumes an ever-increasing chunk of the operating deficit, the mechanism of fiscal control grows weaker. The Governor's appointments to the Board of Directors constitute the only formal state oversight of the "T" budget . The failure, furthermore, of the MBTA to keep its income in step with expenses serves to exacerbate the T's chronic operating deficit. **Against the day when the current mix of finances may fail, it is the task of this report to identify and evaluate feasible, alternative sources for funding (both short and long-term) the MBTA's annual operating deficit.**

CHAPTER II: ECONOMIC, POLITICAL, AND SOCIAL FACTORS IN MBTA FINANCING

In order to explore alternative methods of funding the MBTA, it is necessary to examine the past and present system of financing; to diagnose the health of the economy at the federal, state, and local levels; to assess political trends, and to determine the benefit to society from the current method of funding the MBTA. In brief, economic analysis will cite ability; political analysis will note willingness; and social analysis will describe the effects of paying the bill for public transit in the MBTA District.

2.1 History of Public Transit in Boston

The modern era of public transportation began in Boston in 1948 when the Metropolitan Transit Authority (MTA), comprised of 14 cities and towns, purchased all of the stock of the Boston Elevated Railroad (BER). In its heyday, the old BER carried some 388 million passengers and covered 54.7 million service miles. At the very time, however, that the concept of public ownership of transportation took hold, post-war America began its affair with the private automobile. The MTA shrank both in ridership and the number of service miles. Not until the late 1960's did the trend begin to reverse.

2.1.1 Local Tax Revolts –Creation of the MBTA

The 14 communities of the MTA paid for their public transportation through local property tax assessments. By 1963, the transit system already operated \$21 million in arrears, and the first of several major taxpayer revolts was in the works. The following year compromise was reached and the Massachusetts Bay Transportation Authority (MBTA) launched. Suburban legislators recognized the need to improve service outside the core area, and inner city representatives needed to distribute the cost of the system more widely. The resultant 78 member district encompassed more independent jurisdictions than any other transit system in the country. Through a complex assessment formula, each MBTA community paid for its specific services, while the entire region shared the cost of general benefits. All towns and cities within the district were assessed for the MBTA operating deficit, even if they received no direct service.

For the first time, during the 1960's, state grants provided funds for public transportation both within metropolitan Boston and throughout the Commonwealth. This infusion of state money enabled the MBTA to expand by subsidy and outright purchase. In 1965, the MBTA subsidized the "Middlesex and Boston" as well as commuter rail. The "T" purchased the Eastern Massachusetts State Railway Co. in 1968. By the end of the decade, the MBTA began to approach the old BER mark with 40 million revenue miles.

Expanded service, however, carried a heavy price. During a five year period beginning in 1966, MBTA assessments more than doubled. In its November 18, 1969, report, the MBTA Advisory Board appealed for more state financial assistance "to support vital mass transit service within Eastern Massachusetts in view of the inability of municipal property tax to bear the prospective burden of such services."

In an effort to head off a crippling taxpayers' revolt, Massachusetts Governor Francis Sargent assembled a task force to explore the policies and management structure of the MBTA. The task force cited the "T's" chronic pattern of operating in the red, as well as an extended period of capital expansion, as the major source of transit woes. They chided management for failing to modernize its stock and to carry out routine maintenance. They pointed to union work rules and entrenched politics as contributing factors in the transit mess. Urging unions and management to work together to improve efficiency, the task force ultimately recommended establishment of a state fund for transit.

Before the legislature could pass any such measure, the MBTA nearly ground to a standstill. With a work stoppage imminent in July of 1972, Governor Sargent signed temporary, emergency legislation to override the Advisory Board's refusal to fund a supplementary budget. At the same time, he urged the legislature to absorb as much as one third of the total net cost of service.

2.1.2 State Funding and the Ascendancy of Mass Transit

In 1972, Governor Sargent also announced an historic departure from the transportation policies of the recent past. Sweeping aside the pro-highway mentality of several decades, the governor killed the state's proposed plan to build I-95 North and a Southwest Expressway. He proposed instead that the \$2 billion be channeled into rail transit development and improvement of existing roadways. Opposition to Sargent's decision was led by Senate President, Kevin B. Harrington; the Boston Chamber of Commerce; and members of the construction trade unions. On the other side, Boston Mayor Kevin White, buoyed by nearly every other politician whose home base lay in the path of the intended highways, greeted the shift from roads to rail transit as a boon to his city's future. A Planning Review survey found that area residents opposed construction of the expressways by a 3-1 margin.

The governor's plan to scotch highway construction around Boston received a major boost in May of 1974 when the U.S. Department of Transportation approved his proposal to cancel the expressways and reassign federal funds, earmarked for these projects, to alternative transportation development. This made some \$600 million available for mass transit improvements in metropolitan Boston.

In the meantime, forced by repeated budgetary crises, Governor Sargent had begun to revamp management and policy at the MBTA. In 1973, he filed legislation intended to increase the authority and accountability of the "T" by combining into one the positions of Chairman and Chief Executive Officer. The act also made provision for comprehensive transportation planning.

The following year, the legislature radically changed the nature of funding for public transportation. Setting aside the long-held belief that local communities bore fiscal responsibility for their transit service, the state government now shouldered a major portion of the transit burden: The legislature agreed to assume 50% of the MBTA's net operating deficit. In addition, under the Urban Mass Transportation Act of 1974, the federal government would provide operating assistance. The property taxpayers of the MBTA district

now seemed to have the relief they had sought for so long.

2.1.3 The Ultimate Tax Revolt--Proposition 2 1/2.

The honeymoon for the remodeled "T" was brief indeed. By the end of the 1970's, despite an increase in ridership, the MBTA was again manifesting signs of major budgetary malfunction. Rising transit costs and a growing burden on taxpayers threatened once more to bring service to a halt. A one-day shutdown in December, 1980, due to a depleted operating budget, prompted the Legislature to pass a bill for emergency funds and structural revision of "T" management. The State Secretary of Transportation now would sit as Chairman of the MBTA Board of Directors and the board would be granted greater power to cut costs. Management was assigned new rights covering employment and service policies as well as productivity standards. These management prerogatives, not subject to collective bargaining, include: the right to direct, employ, and promote officers and employees and to set the standards for such action; the right--subject to certain provisions--to fire employees; the right to decide levels of transit service; the right to direct and evaluate the various departments of the authority; the right to determine how much staffing and training is needed; the right to decide what goods and services must be made, leased or contracted for on a temporary or permanent basis; the right to assign overtime; and the right to hire part-time employees.

The surge of state-mandated belt-tightening came in the wake of the largest property tax revolt in Massachusetts history. Recurrent discontent on the part of property taxpayers now asserted itself in the form of a ballot referendum which placed an outer limit on how much revenue could be collected from real estate. The architect of this legislation was an influential group called Citizens for Limited Taxation. Proposition 2 1/2 states: 1. *No city or town may collect a property tax levy that exceeds 2 1/2 percent of the full and fair market value of property in the community.* 2. *No municipality may increase its property tax levy by more than 2 1/2 percent in one year, except for a small allowance for real estate added to its property base.*

**Of particular significance to the MBTA, Proposition 2 1/2 places a cap on the assessment which can be levied on district communities for the "T" deficit .*

The law took effect in FY82 and necessitated a rollback in property tax rates of up to 15 percent a year in communities whose levies already exceeded the ceiling. Because of this provision, the state property tax levy fell by 13.1 percent or approximately \$400 million from FY81 to FY83.

The primary results of Proposition 2 1/2 have been to increase state fiscal aid and, consequently, political interference in local concerns. Given mandated cuts in the property tax levy, state-collected funds now must be used to pay the bills for many county and municipal services. In FY86, for the first time, the amount of state revenue spent on local needs exceeded the total property tax levy. Since the enactment of Prop 2 1/2, nearly 80 per cent of the \$1.9 billion increase in local spending has come from increases in state aid. User fees account for most of the rest.

While property taxes once guaranteed autonomy to the municipalities which collected them, as well as to the county and regional bodies feeding off them, Proposition 2 1/2 has jeopardized that independence and altered the relationship between local and state governments.

2.2 Current MBTA Financing

Proposition 2 1/2 has also affected the relationship among the four major funding sources for the MBTA. (See Table 2.1 for historical review of MBTA revenue sources). The state's portion of the bill for cost of service has steadily increased from about 39% in the early 1980's to a current level of 50%. Even before the passage of Prop 2 1/2-- in the mid-1970's when the legislature agreed to help pay for public transit-- the share of local assessments began to drop from 33% in CY1976 to 28% in CY1980. Throughout the 1980's, however, the combined state and local share of MBTA costs has remained

consistently close to two-thirds. At 71%, the 1987 state and local share is the highest in the decade. The growing state contribution can also be explained by the low rate of growth in "T" income during the 1980's.

Table 2.1

Historical Trend of MBTA Revenue Sources

Percentage of Total Revenue				
	MBTA Revenue	Federal	State	Local
	-----	-----	-----	-----
1976	27	7	35	31
1977	25	9	34	32
1978	25	10	37	28
1979	25	9	38	28
1980	25	9	41	25
1981	30	7	39	24
1982	30	6	39	25
1983	28	6	42	24
1984	27	6	44	23
1985	26	5	48	22
1986	25	4	49	22
1987	25	4	50	21

Source: Calculations based on MBTA Advisory Board Staff, "MBTA Revenue, Expense and Deficit," July, 1988.

2.2.1 MBTA Fare Revenue

Compared to the rest of the nation's transit systems, the MBTA places much greater reliance on state and local funds to cover the cost of operation. Currently, only 25% of transit costs are paid for by collected fares. (Table 2.2 compares MBTA revenue sources to the averages for the nation's transit systems). Nationally, the share of

transit costs is divided as 41% fare revenue, 10% federal funds, 49% combined state and local funds.

Table 2.2

Distribution of Transit Revenue Sources: 1983

	REVENUE	STATE & LOCAL	FEDERAL
ALL SYSTEMS	41.1%	49.2%	9.7%
MULTI-MODAL SYSTEMS	48.2%	47.3%	7.5%
MBTA	28.5%	65.9%	5.6%

Source: APTA, "Transit Fact Book," 1983, and MBTA Advisory Board, op. cit.

It is not the purpose of this study to analyze whether the "T's " low figures result from relatively high costs or an inadequate fare schedule, but the small percentage of transit costs covered by MBTA fare revenue merits thorough examination.

The growth in total operating expenses for the MBTA over the past decade has exceeded growth in the overall Consumer Price Index, (i.e., expenses have increased in constant dollars), but real operating expenses per revenue mile have remained level since 1982. (Table 2.3). Recent increases in total cost may be attributed to service expansion and recovery from the crisis years of 1979-81.

2.2.1.1 Future of Fare Revenue

In 1983 the Central Transportation Planning Staff (CTPS) stated in its environmental and socio-economic impact report for the 1981 MBTA fare increase that small, regular, incremental fare hikes are the most equitable. Repeated policy statements, however, by the Secretary of Transportation and the governor oppose any increase in transit fares.

Table 2.3

MBTA Fare Revenue and Operating Cost Growth, 1976-1987

	Change from Previous Year					
	<u>Current Dollars</u>			<u>Constant Dollars</u>		
	<u>Total</u> <u>Op Exp</u>	<u>Op Exp</u> <u>/Pass</u>	<u>Fare</u> <u>Rev</u>	<u>Total</u> <u>Op Exp</u>	<u>Op Exp</u> <u>/Pass</u>	<u>Fare</u> <u>Rev</u>
1976	+5%	+5%	+4%	-3%	-4%	-4%
1977	11%	+10%	+1%	+6%	+5%	-4%
1978	+8%	+4%	+3%	+2%	-1%	-2%
1979	+11%	+8%	+3%	+1%	-2%	-7%
1980	+15%	+13%	+17%	+2%	+1%	+4%
1981	+2%	+12%	+24%	-8%	+1%	+11%
1982	+2%	+1%	+14%	-2%	-3%	+9%
1983	+6%	0%	+2%	+2%	-4%	-3%
1984	+10%	+6%	+6%	+8%	+4%	+4%
1985	+8%	+6%	+3%	+3%	+1%	-1%
1986	+8%		+2%	+5%		-1%
1987	+5%		+4%	+1%		-1%

* Based on CPI for Boston

Source: Calculations based on MBTA Advisory Board, *op. cit.*; MBTA Annual Report (various years), and Massachusetts Taxpayers' Foundation, "The Numbers Book," 1986.

2.2.2 Federal Funds

Federal funding for the MBTA peaked in 1978 at 10% and has been declining slowly to its current level of 4%.

2.2.2.1 Federal Economic Indicators

Four indicators of national economic health--unemployment statistics, inflation rate, personal income, and retail sales--are detailed in Table 2.4. and compared with Massachusetts and Boston figures. Three of the factors--unemployment, income, and sales--indicate general economic activity. The inflation rate is an indicator of economic stability and is essential for calculations of "real" growth rates and cost increases.

Table 2.4

Economic Indicators: Massachusetts and U.S. 1975 - 1987

	Unemployment Rate (%)		Inflation Rate (%) *		Change from Previous Year (%)			
					Personal Income Per Capita		Retail Sales	
	MA	US	Boston	US	MA	US	MA	US
1975	11.2	8.5	9.0	9.1	7.5	7.4	5.6	6.8
1976	9.5	7.7	8.3	5.8	8.5	9.9	9.1	10.9
1977	8.1	7.0	4.5	6.5	10.2	9.0	6.2	9.4
1978	6.1	6.0	5.3	7.7	10.2	10.2	10.0	12.9
1979	5.5	5.8	10.3	11.3	12.5	11.7	3.2	8.6
1980	5.6	7.1	12.7	13.5	12.5	10.2	15.3	8.8
1981	6.4	7.6	11.1	10.4	10.2	10.5	10.2	9.4
1982	7.9	9.7	4.1	6.1	7.6	7.7	9.9	4.2
1983	6.9	9.6	4.4	3.2	9.0	3.0	13.6	7.8
1984	4.8	7.5	2.3	3.7	10.5	8.7	11.3	9.3
1985	3.9	7.2	4.5	3.9	9.1	6.4	9.3	7.6
1986	3.8	7.0	4.6	1.8	8.1	5.3	N/A	N/A
1987	3.2	6.2	4.4	3.6	7.2	4.8	N/A	N/A

* Change from previous year, CPI-Boston and CPI-US.

Sources: Bureau of Labor Statistics, "Handbook of Labor Statistics," various years; U.S. Census, "Statistical Abstract of the U.S.," various years; Sales and Marketing Management Magazine, "Survey of Buying Power," various years.

As Table 2.5 shows, in 1987 the national unemployment rate average dipped to 6.2%, its lowest figure in more than a decade. Since the last year of double-digit inflation (1981), prices have increased nationally by an average of only 4% per year. For the nation, per capita personal income has increased by 93% since 1978, with an annual average increase over the past three years of 5.5% in nominal dollars, or 2-3% in real dollars. The great surge in personal income has encouraged large increases in retail sales, which have remained consistently ahead of the 4% annual growth in prices.

2.2.2.2 Economic Projections

While recent trends in the economy cannot indicate what will happen over the next few years, they still provide the best basis for projecting future economic health and growth. In this study, estimates for the U.S. economy up to 1991 have been taken from the figures of the Congressional Budget Office (CBO) and the Council of Economic Advisors (CEA). (See Table 2.5).

It is anticipated that the federal rate of unemployment will remain in the 6-7% range over the next several years. Inflation is expected to hover at 3-4%. Projections for interest rates (as measured by "T" bill rates) are given as follows by the CBO for the years 1986-1991: 6.2%, 6.4%, 6.3%, 6.0%, 5.7%, and 5.3%. The CEA estimates the following figures for the same years: 6.2%, 6.2%, 5.6%, 5.1%, 4.5%, 4.0%. At the end of 1987, the actual 3-month "T"-bill rate was 5.8%.

2.2.2.3 Federal Fiscal Trends and Political Climate

While the general health of the national economy has a direct bearing on its ability to maintain a subsidy for public transit, certain political factors may affect its willingness to do so. The federal government is currently saddled with a record budget deficit, and even under the most optimistic economic assumptions, deficits in excess of \$100 billion are anticipated throughout the decade. It is important to note

Table 2.5

Economic Projections: Massachusetts and U.S. 1986 -1991**Unemployment Rate**

	Massachusetts		U.S.
	<u>A&F</u>	<u>Range</u>	<u>CBO</u>
1986	3.9	4.1-4.5	7.0
1987	4.2	3.8-4.8	6.7
1988	4.1	3.5-4.8	6.4
1989	4.3	3.4-4.7	6.3
1990	2.7	3.4-4.8	6.1
1991		3.4-5.3	6.0

Inflation Rate (percent change in CPI)

	CPI Boston		CPI - US	
	<u>A&F</u>	<u>Range</u>	<u>CBO</u>	<u>CEA</u>
1986	3.8	3.3-3.3	1.6	1.3
1987	3.0	3.1-3.7	3.3	2.8
1988	3.5	3.5-4.5	4.1	3.7
1989	4.5	3.7-5.3	4.1	3.3
1990	5.0	3.6-5.8	4.1	2.8
1991		3.9-6.9	4.1	2.1

Personal Income per Capita (% change from previous year)

	Massachusetts	
	<u>A&F</u>	<u>Range</u>
1986	5.7	5.7-5.7
1987	6.5	5.5-6.5
1988	7.1	6.3-7.3
1989	6.1	6.4-8.2
1990	7.9	6.5-9.6
1991		5.4-10.0

* High and low projections from various growth scenarios reported by J. Wooster, based on Data Resources Incorporated long-term forecast from Fall 1985.

Sources: "A&F Forecast for Massachusetts Economy," November, 1986 and June, 1988; State Commission on Tax Reform Draft Report, "Revenue Caps and Rainy Day Funds," 1986; Congressional Budget Office, "Economic and Budget Outlook: An Update," August, 1986.

that these estimates of the deficit are made without assuming any real increase in total "non-defense discretionary" spending, which includes funds for mass transit, and state or local aid. Congressional resolutions have already introduced recommending cuts in this category in order to reduce the budget deficit. Funds for transit consistently have been proposed for large cuts, even elimination. But thus far, federal operating subsidies have withstood the ax and are expected to survive without major cuts for at least a few more years. **In view of the enormous deficit burden which faces the President and the Congress, however, it seems prudent to plan for the "T's" long-range financial future as if federal operating assistance were not going to be available.**

2.2.3 Local Funds

Although the share of "T" expenses paid by local subsidies has been declining steadily, this does not represent a decrease in actual local funding. Assessments on cities and towns have continued to increase but not by as much as total MBTA costs. Indeed, since 1979, local assessments have risen 14%. But because of property tax reductions mandated by Prop 2 1/2, local tax funds available to pay the "T" bill have shrunk. To cover the tab, state aid (cherry sheets) to municipalities has increased slightly more than the increase in MBTA local assessments. As a result, the MBTA local assessment has dropped from 3.6 to 3.3% of total local revenue. In other words, the share of town and city money that must be paid to the MBTA has decreased by 8%. (See Appendix C for the percentage of local revenue paid by individual municipalities).

2.2.3.1 Economic Indicators

Property taxes had long been the wellspring of local revenue in Massachusetts. In 1980, however, the passage of Proposition 2 1/2, which limited growth in property tax revenue to 2 1/2% per year, severely altered this pattern. In the face of decreasing funds, many communities were forced to adopt drastic reductions in spending for schools and services. Only a massive infusion of state aid prevented greater cutbacks.

From 1981-1985, local cherry sheet aid increased by 65%, while state expenditures--excluding local aid--increased by 37%. Table 2.6 illustrates the shift in sources of local revenue (property taxes, local fees, and state aid) from 1979 to the present. Data is presented for communities across the state, and within the MBTA District--both individually and in groups. This table dramatically illustrates the decline in local reliance on property tax revenue and the growing importance of state aid.

The impact of Prop 2 1/2 has been cushioned somewhat by economic good times. Low inflation rates have kept increases in the costs of goods and services only a few percentage points above the 2.5% growth constraint. At the same time, new development, which is exempt from the limits, has brought increased tax revenue to some communities within the MBTA District. Declining school enrollments have also been a boost to certain municipalities, and in some instances sale of school property has brought in additional revenue.

2.2.3.2 Fiscal Trends and Political Climate

Still, the effects of Proposition 2 1/2 have caused the state legislature--against a long-standing policy in Massachusetts preventing cities and towns from levying any but property tax.-- to consider local option taxes. Sixty communities have now adopted either or both a tax on hotel/motel room occupancy (1-4% of receipts) and aviation fuel (5% or \$.05 a gallon). There is also a local tax on real estate transfers which is offered on a county-to-county basis for conservation land banks, with Dukes and Nantucket counties the only ones with authorization to date.¹

Another option for communities which reach the limits of Prop 2 1/2 is the local override. According to a 1987 Department of Revenue study, 50 of 110 communities have mounted a successful override campaign. In the future, the override may become an even more

¹ Source: J. Wooster, State Commission on Tax Reform, "Local Non-Property Taxation: An Option for Massachusetts Cities and Towns?" January, 1987.

Table 2.6

Local Revenue Sources, 1979-1985

	1979			1985		
	Property Tax Levy	Fees & Receipts	State Aid Aid	Property Tax Levy	Fees & Receipts	State Aid Aid
A BOSTON	57.3%	16.0%	26.7%	36.9%	27.2%	36.0%
B INNER 13 COMMUNITIES	72.9%	12.3%	14.9%	57.4%	15.4%	27.2%
C SO. SHORE INNER	65.0%	19.6%	15.5%	58.2%	10.7%	31.1%
D SO. SHORE OUTER	70.1%	9.4%	20.6%	61.3%	11.6%	27.1%
E SOUTHWEST	67.7%	17.1%	15.2%	58.8%	21.3%	19.9%
F WEST	73.7%	13.1%	13.2%	67.5%	14.9%	17.6%
G NORTHWEST	76.5%	9.3%	14.3%	69.9%	11.2%	18.9%
H NO. SHORE INNER	68.0%	12.2%	19.7%	57.7%	10.8%	31.5%
I NO. SHORE OUTER	63.5%	23.0%	13.5%	52.7%	29.0%	18.3%
MBTA DISTRICT	66.7%	14.6%	18.8%	53.1%	18.8%	28.1%
MASSACHUSETTS	64.6%	14.0%	21.4%	52.1%	16.8%	31.1%

SOURCE: Massachusetts Taxpayers' Foundation, "Municipal Financial Data," 1979 and 1985

Sub regions are defined in Appendix B

attractive option because the legislation recently changed the vote, necessary to raise property taxes above the 2 1/2 limits, from two thirds to simple majority.

2.2.3.3 Economic Forecast

Although all Massachusetts communities have not been severely constrained by the imposition of Prop 2 1/2, it is clear that a change in any one of several factors could cause communities statewide to make further cuts from their goods and services. If the inflation rate should increase, if new development dwindles, or if school enrollments should edge back upwards, the pressure to reduce expenditures will be intense. If faced with the choice of trimming local services or paying the public transit bill, communities undoubtedly will give precedence to their local needs.

The greatest single threat, however, to the continued economic health of local communities, is a choking off of state aid. Cherry sheets have supplanted the property tax levy as the lifeblood of local services. Currently, the imposition of a cap on state revenue intake, passed by referendum in November, 1986, casts doubt on the future levels of state aid.

The return of economic prosperity to Massachusetts in the mid-1980's brought with it a resurgence of taxpayer revolt. The 7.5% surtax on personal income, passed to balance the state budget during the recession years of 1974-75, was no longer deemed necessary by Governor Dukakis and the state legislature. The legislature not only repealed the surtax but also limited future growth in state revenues to a maximum annual increase based on the past three years' rise in wages and salaries, at the same time setting aside funds for a possible economic downturn. But this legislation satisfied neither the Citizens for Limited Taxation nor the High Technology Council, whose leaders cited the large increases in Massachusetts revenue as a sign that state spending was out of control. They also argued that the legislature passed its revenue cap primarily to derail popular support for a more far-reaching tax referendum. The latter, passed in November, 1986,

by a margin of 54-46%, places even tighter constraints on allowable growth and makes no provision for a stabilization fund.

It is as yet unclear what effect the state revenue cap will have on the economic well-being of local communities. If the Massachusetts economy remains prosperous and if state tax revenues should again exceed the cap as they did in its first year, the pressure to limit state expenditures undoubtedly will increase, especially among supporters of a strict revenue cap within the legislature. It is already apparent that the passage of any new local option taxes will be more difficult because revenue from these sources is subject to the cap.

2.2.4 State Funds

The primary source of MBTA financing is now state funds. In fact, the state contribution to the MBTA is the only one of four revenue sources that is growing in real terms. From 1983-85, the total state "T" subsidy increased at the annual rates of 15.8%, 16.7%, and 14.4%. Although the state increase fell to 9.2% in 1987, during the years between 1981-87, Massachusetts increased its payment to the "T" by 95.4%.

The total cost of transit service has increased by about 8% per year, while the state contribution to the bill has grown by twice as much. Overall, MBTA costs have increased at rates consistently below those for state revenues and expenditures, but state payments to the MBTA have grown at a higher rate because there are limits on the other sources of MBTA funds. (Table 2.7 shows the relative growth rates in certain categories of expenditure over the past four years and their cumulative totals). Because the state provides about half of all MBTA funding, if all other sources of "T" revenue remain constant, the state contribution will have to increase at twice the rate of MBTA expenses.

Not surprisingly, the state's growing contribution to "T" financing has sparked a debate about more legislative control of the MBTA. Senator Patricia McGovern (D. Lawrence), Chair of the Senate Ways and Means Committee, has introduced legislation to bring the "T" budget process

Table 2.7

Massachusetts and MBTA Expenditure Growth, 1981-1987

Percent Change from Previous Year					
	<u>Mass. Total Expenditure</u>	<u>MBTA Total Op. Expense</u>	<u>Mass. Total \$ to MBTA</u>	<u>MA Debt Svc \$ to MBTA</u>	<u>Local \$ to MBTA</u>
1982	6.2%	2.5%	1.8%	23.7%	2.5%
1983	8.8%	6.2%	15.8%	20.9%	2.5%
1984	10.6%	10.4%	16.7%	9.1%	2.5%
1985	10.9%	7.9%	14.4%	15.5%	2.5%
1986	16.1%	7.5%	13.4%	9.4%	2.5%
1987	11.9%	5.2%	9.2%	7.7%	2.5%
Total 1981-87	77.1%	36.7%	95.4%	125.0%	16.0%

Source: Calculations based on Commonwealth of Massachusetts, "Information Statement (Appendix A of MBTA Bond Official Statement)," 1986,1988; and Advisory Board op. cit.

under state purview by requiring that all MBTA appropriations be done on a prospective rather than retrospective basis. This would give the legislature direct control of expenditures. At this time, only state contract assistance for debt service and state contract assistance for rail service to communities outside of the MBTA district are funded prospectively. Any effort by the state legislature to assume more control over the MBTA carries a concomitant loss of oversight at the local level.

2.2.4.1 *Economic Indicators*

Currently, all indicators of economic activity show vital economies at the state and MBTA regional levels. Massachusetts suffered a major decline during the recession of 1974-75 but weathered the national recession of 1981-82 very well.

Since 1979, the rate of unemployment in Massachusetts has stood well below the national average (see table 2.8), while every other industrialized state posted a jobless rate above the U.S. mark. In 1987, Massachusetts unemployment was 3.2% against 6.2% nationally. Recently, unemployment in the Boston Standard Metropolitan Statistical Area (SMSA)-- which includes all 78 MBTA communities--was lower even than in the state.

State gains in employment during the mid-1980's were reflected in a big jump in wages, salaries and personal income. Per capita income in Massachusetts doubled between 1978 and 1985. In 1983, '84, and '85, the average increase was about 10%, while annual inflation remained around 4%. In the last two years ('86 and '87) Massachusetts per capita income has registered a lower rate of increase of 8.1% and 7.2%.

Over the past decade, the Consumer Price Index for Boston has shown an inflation rate close to the national average.

More dollars in the consumer pocket meant growth in retail sales in the range of 10-15% during the years 1982-85. (Table 2.8 compares

retail growth rates between metropolitan Boston and the state).

2.2.4.2 Fiscal Trends and Political Climate

While the federal government has been grappling with record budget deficits, Massachusetts has luxuriated in large surpluses. Until this year, state coffers were bursting. Over 90% of their intake derives from taxes on personal and corporate income and sales, and all three of these sources grew robustly in recent years. Indeed, the growth in state tax revenues even exceeded that of personal income (Table 2.9), in part because of improved collection and enforcement but also as a result of the "elasticity" of tax receipts.² Because of heavy reliance on growth taxes, however, Massachusetts tax receipts are relatively volatile. The boom economy of the mid-1980's already has begun to level off, as reflected in budget receipts this year. While personal income tax receipts increased by 14.9% between 1985 and '86, the increase fell to 10.1% between 1986-87. State receipts of corporate income taxes have registered an even more dramatic turn. Between 1985-86, corporate receipts increased by 20.2%, while the increase between 1986-87 was only 1.4%. (Table 2.9) Although state collections exceeded the tax cap during its first year of application in 1987 (\$23,000,000 had to be returned), the budgetary picture is somewhat clouded this year. Only strong gubernatorial action and legislative cooperation averted a shortfall. It is too soon to tell whether shrinking state coffers will move legislators--who do not line up willingly to be counted in the cause of increasing taxes--to modify the tax cap. John Olver (D. Amherst), Chair of the Senate Taxation Committee, continues to work for modifications in the tax cap. In addition, a moderate citizens lobby, the Tax Equity Alliance (TEAM), dedicated to loosening the cap, has appeared as an alternate voice to the Citizens for Limited Taxation.

²Daniel Feenberg and Harvey Rosen, "State Personal Income and Sales Taxes, 1977-1983," 1985.

Table 2.8

Economic Trends in Boston Area vs. Massachusetts
-----**Unemployment Rate**

	<u>Boston</u>	<u>Massachusetts</u>	<u>Boston as % of Mass.</u>
1980	5.3	5.6	94.6
1983	6.2	6.9	89.9
1984	4.3	4.8	89.6
1987	2.7	3.2	84.3

Retail Sales Growth

	<u>Boston</u>	<u>Massachusetts</u>	<u>Boston as % of Mass.</u>
1973-76	19.3	22.3	86.5
1976-79	18.4	20.6	89.3
1979-82	31.9	39.7	80.4
1982-85	43.3	38.1	113.6

 Source: U.S. Census, State and Metro Area Data Book, 1986; Sales and Marketing Management Magazine, op. cit.; Bureau of Labor Statistics, "News," July, 1988.

Table 2.9

Percentage Increase of Massachusetts Personal Income and Tax Receipts

	Change from one year to the next				Total
	1982-83	1983-84	1984-85	1985-86	1986-87
Total Personal Income	9.20%	11.20%	9.10%	8.20%	7.20%
Personal Income Tax	6.40%	12.90%	13.20%	14.90%	10.10%
Sales Tax	14.70%	18.70%	15.30%	18.90%	9.10%
Corporate Tax	1.60%	14.00%	15.60%	20.20%	1.40%
Total Tax Receipts	7.50%	13.40%	13.30%	16.60%	8.60%
					53.50%
					71.90%
					103.40%
					63.40%
					74.90%

Source: Calculations based on Commonwealth of Massachusetts, "Information Statement (Appendix A of MBTA Bond Official Statement)," 1986, 1988 and U.S. Census, "Statistical Abstract of the U.S.," various years.

2.3 MBTA Support and Subsidization

Since 1948, metropolitan Bostonians have shown a sturdy loyalty to the concept of public transportation. Because the MBTA generates only 24% of its operating costs, this means that 3/4 of the MBTA expenses are paid by citizens who do not necessarily use public transportation.

Citizens appear to agree that subsidization of the MBTA is justified because mass transportation benefits society as a whole--users and non-users alike. It improves access to housing and employment, reduces congestion, improves energy efficiency and air quality, and provides assistance to low-income people.

2.3.1 Distribution of the Transit Subsidy

To the extent that subsidization reduces the direct costs of transit paid by riders, there is a distributional impact. Such effect is best measured by comparing income groups.

A 1981 study quantified the impact of transit subsidies (see Table 2.10). The results of the study show that because lower income people tend to use mass transit more than other income groups, transit subsidization provides net benefits to them. Transit subsidization is progressive in terms of income distribution because low income citizens spend a greater portion of their income on transit than do higher income people.

The major tax sources for the MBTA are general state taxes, including income and sales, as well as property taxes. These taxes on the whole tend to be slightly regressive, in that higher income groups pay a smaller percentage of their income. As subsidization shifts from local property taxes to state income and sales taxes, the package becomes less regressive. This is because the property tax is the most regressive of these taxes. It is important to note, however, that even a relatively regressive tax structure is less regressive than the impact of increased transit fares.

Table 2.10

Distribution of Net Benefits of U.S. Transit Subsidies, 1978

(amounts in millions of dollars)

	Household Income					
	Less than \$6,000	\$6,000- \$9,999	\$10,000- \$14,999	\$15,000- \$19,999	\$20,000- \$24,999	\$25,000 + over
Distribution of Tax Payments For Transit	182	317	645	847	730	2,547
Distribution of Subsidy Benefits	1,082	870	1,110	769	601	827
Distribution of Net Benefits +	900 +	553	+465	-78	129	1,720

Source: Pucher, "Equity in Transit Finance: Distribution of Subsidy Benefits and Costs among Income Classes," *Journal of the American Planning Association*, October, 1981.

Transit subsidization may also be examined in terms of geographic impact. The shift from local property tax support to state tax revenue has redistributed some of the cost of the MBTA from its district to the entire state. Within the Authority district, the assessment formula places a heavier burden on inner cities and towns, whose populations are generally poorer. (Table 2.11). The changes in assessments based on the use of 1980 census data resulted in a very slight shift to outer cities and towns.

Information about subsidy distribution by income and region are important to the study of alternative funding sources. If an alternative

financing strategy involves decreased equity, this change in distribution may speak to the issue of suitability and political acceptability. To some extent, the current distribution pattern results from many political judgments concerning who should pay for public transportation. Any future financing strategies may not stray too far from this consensus. A decision about alternative funding will also have to take into account changing transit needs.

Summary

The current mix of MBTA funding is working, if not ideally. While there is no imminent crisis facing MBTA financing, there are enough danger signs to prompt planners to prepare for alternative financing strategies. State expenditures are now constrained by a tax cap, and even without the cap, they are held in check by a chronic anti-tax climate. The cost of running the MBTA is taking an ever-growing chunk of the state budget, and the legislature must choose to allocate funds for transit from other purposes. Given such choices, the legislature may be expected to attempt to limit the level of subsidization and to increase its control of "T" expenses.

CHAPTER III: POTENTIAL NEW REVENUE SOURCES FOR THE MBTA

The MBTA Advisory Board undertook this study of alternative funding sources in order to escape the crisis-style management of the past. Although the mix of transit finances currently meets the needs of the MBTA, there are sufficient problems gathering on the horizon to prompt intelligent contingency planning.

This chapter identifies alternative revenue sources, argues the case for their appropriateness to Massachusetts, and offers examples of their use by other transit systems. Only those sources with the most revenue potential and likelihood for acceptance in Massachusetts will be discussed at any length. Two main categories of revenue sources will be discussed: tax-based and non-tax-based. Of these, only tax-based strategies and a state lottery have enough income-producing potential to be considered in detail.

It must be stated at the outset that any tax-based revenue source for the "T" faces a difficult, perhaps impossible obstacle--the existence of the state tax cap referendum. This law not only restricts state tax revenue but also includes a provision that covers local option taxes. This means that the state tax revenue base will be reduced by the amount generated by any new tax. The cap, of course, can be amended by law. For example, the state legislature can stipulate that a tax be exempt from the cap. Amending the tax cap in times of state prosperity, however, has proved to be a herculean task. Last year, a bill to exempt local aid from the cap died after passing the Senate. The local aid exemption bill has just come out of committee for another legislative round this year. Ironically, for the "T" to move the legislature to raise any new tax revenue free of the cap, it may take the very kind of grind-to-a-halt crisis the Advisory Board is seeking to avoid.

3.1 Tax-based Strategies

Tax cap notwithstanding, the following five taxes, used by other transit systems, will be examined:

- sales tax
- motor fuel tax
- motor vehicle license fee
- payroll or income tax
- miscellaneous taxes (e.g. utility tax)

For the purpose of identifying viable alternative funding sources for the MBTA, it is useful to consider taxes already applied to transit in other locales, because such use 1) argues a rational connection between the source and the service and 2) demonstrates implementability. While the use of certain taxes for transit in other cities does not guarantee their acceptability in Massachusetts, it does prove them worthy of consideration.

All five of the above tax categories are in use across the nation as dedicated sources of transit revenue. Where they are attached directly to transit funding, they often provide the largest single source of revenue. Twenty-one of the 26 biggest transit systems in the U.S. received dedicated state and/or local tax revenue as of 1983 (see Table 3.1). Five systems have dedicated state taxes only, 11 have local or regional taxes only, and five have both. The MBTA was one of the five systems without any dedicated taxes in 1983.

An alternative funding source for the "T" need not be dedicated. A discretionary tax, intended for use in funding the MBTA, can be levied to provide additional revenue to the state or local communities. The advantage of a dedicated tax source, however, is that it provides a predictable amount of money for a transit system, thus permitting long-range budget planning. On the other hand, dedicated funds for an autonomous agency reduce its accountability to the public. In the case of the MBTA, if a dedicated tax were instituted, it is not clear what the role of the Advisory Board--which now directly oversees "T" activities-- would become. With discretionary funding, state and local governments assert a great deal of control by allocating public money according to performance and changing needs. Massachusetts, furthermore, has no precedent for dedicated taxes. Although such taxes appear to be constitutional under Section 8 of the Municipal Home Rule amendment, responsible organizations for good government, such as the Mass Municipal Association, have consistently lobbied against dedicated taxes.

Table 3.1

TAX-BASED SOURCES OF REVENUE (FOR OPERATIONS) AMONG LARGE TRANSIT SYSTEMS*

TRANSIT SYSTEM	PERCENT OF TOTAL REVENUE BY TYPE OF SOURCE									
	Dedicated State Tax					Dedicated Local (or Regional) Tax				
	Total	Sales	Gas	Tolls	Other	Total	Sales	Gas	Property Payroll	Other
NYCTA	5.8%			5.8%		0.0%				
Newark - NJT Corp	0.0%					0.0%				
Chicago - CTA	0.0%					28.6%	28.6%			
Philadelphia - SEPTA	4.9%			4.9%		0.0%				
LA - SCRTD**	2.8%	2.8%				32.7%	32.7%			
Washington - WMATA	0.0%					2.1%		2.1%		
MBTA	0.0%					0.0%				
Detroit - SEMTA	29.1%		25.4%		3.7%	0.0%				
Seattle - Metro**	0.0%					64.3%	41.3%			23.0% +
Pittsburgh - PAT	0.0%					0.0%				
Minn. - MTC	0.0%					40.5%		40.5%		
Baltimore - MTA	44.5% ++					0.0%				
Atlanta - MARTA**	2.7%					48.2%	48.2%			
SF - MUNI.	0.0%					16.4%	6.6%			9.8%
Cleveland - RTA	0.0%					56.2%	56.2%			
Alameda - Contra	0.0%					54.7%	21.1%	15.5%		18.1%
Costa TD	0.0%					0.0%				
St. Louis - BSDA	6.4%	6.4%				44.6%	44.6%			
Portland - Tri-MET**	0.0%					55.1%			55.1%	
Houston - MTA**	0.0%					78.6%		78.6%		
Dallas - TS	0.0%					0.0%				
Denver - RTD	0.0%					68.4%	68.4%			
Santa Clara Co. - TD**	25.6%	25.6%				52.4%	52.4%			
Miami - Dade Co. - TA**	27.6%		27.6%			0.0%				
Orange Co. - TD	0.0%					57.7%	54.8%			2.9%
Milwaukee Co. - TS	0.0%					0.0%				
New Orleans - RTA	11.5%					29.8%	29.8%			

Source: 1983 Section 15 Annual Report (except where noted: **Lowery and Co. Financial Ratings of Proposed New Start Fixed Guideway Projects, prepared for UMTA, January 1985)

* Only systems with more than 500 vehicles included.

+ This represents revenue from the Motor Vehicle Excise Tax (MVET): while this is a state tax, the actual source of revenue is a local MVET levy which is considered a credit against the state MVET.

++ Specific breakdown of sources not provided

For the purpose of identifying and evaluating funding alternatives, it is not necessary to distinguish between dedicated and discretionary taxes.

3.1.1 Sales Tax

Sales tax is the most frequently used tax in the U.S. to fund public transit. Atlanta and Seattle were the first to adopt dedicated sales taxes in 1971, and now half of the largest transit systems in the country follow this course. In some systems, the transit district has direct taxing authority, while in others, the city, county, or region collects the tax and allocates it to transit with varying degrees of discretion.

The rationale for using sales tax to fund mass transportation is that local economies depend on accessibility for their lifeblood. All people who participate in the economy--workers or residents--pay to keep the trains and buses running.

Since the Massachusetts 5% sales tax is low compared to other industrialized states, there is room to make a case for an increase. Furthermore, the current tax-exempt status of certain items such as food and clothing (up to \$175), as well as retail services like haircutting and drycleaning, can be changed. The legislature can also set a higher sales tax for the MBTA region alone. Although this would break a long-standing Massachusetts precedent of equal statewide taxation, many regional taxing units have successfully instituted such taxes. The main obstacle to using the sales tax to fund transit in Massachusetts, however, is the desire of cities and towns to use the money for other local needs. (See appendix J for discussion of sales tax at work in Atlanta and the San Francisco Bay Area).

3.1.2 Gas (or Other Auto Use) Tax

In Miami, Baltimore, and Detroit, revenue from the sale of motor fuel is used to help fund mass transit. New York and Philadelphia apply tolls from bridges and tunnels to the support of public transportation.

The link between auto-related taxes and public transit is direct. Mass transportation offers drivers an alternative form of commuting and significantly reduces traffic and parking headaches. It can be effectively argued that in Boston, where these problems are nightmarish despite high transit ridership, any loss or reduction in service will be catastrophic for drivers.

Massachusetts already levies a tax on gas at 10% of the wholesale price. The proceeds, however, go to state highway agencies and a small percentage to transit. If a fuel tax is applied to funding the MBTA, this will entail either raising the tax or reallocating the revenue. In either case, the "T" will face stiff competition from the current beneficiaries. (See appendix J for discussion of fuel tax impact in Miami)

It will be difficult to apply tolls from the turnpike to MBTA funding because charges on the Massachusetts Turnpike are scheduled to end in the 1990's. Although the Secretary of Transportation is considering a plan to keep the tolls in effect, he intends to use turnpike revenue to help defray the local share of the \$3 billion third harbor tunnel-depressed central artery project (THT/CA). Thus turnpike tolls cannot realistically be considered as a potential source of "T" revenue and will not be discussed further.

Parking taxes are only feasible in large cities with the proceeds no doubt targeted for the city's general revenues. In 1981, the legislature defeated a proposal for a parking tax in Boston to help alleviate the crunch of Prop 2 1/2. The measure was rejected by opposition from legislators whose territories surrounded Boston and whose commuting constituents refused to bail out the hub city.

3.1.3 Motor Vehicle Excise

An increase in the existing Massachusetts motor vehicle tax does not represent a promising source of funds for the MBTA. Considered the personal property portion of the property tax, auto excise is limited

in growth by Prop 2 1/2. Since the motor vehicle excise currently generates only a modest amount of income (about \$7.5 million in 1984), a marginal increase for transit will be insignificant.

3.1.4 Payroll or Income Tax

Portland, Oregon uses a corporate payroll tax and Cincinnati an employee income tax to help fund public transit in their cities. A corporate payroll tax is a tax imposed on all employers within a district like the MBTA. An employee income tax is one levied on all individuals living or working within a service district.

The use of such taxes to support public transit is similar to the rationale for the sales tax. In addition, since commuting workers at rush hour place the greatest strain on public transit, it is appropriate that they contribute to its operation. The existence of public transportation, furthermore, eases the employer's expense of providing parking for his workers and justifies his contribution to transit funding.

Instituting a payroll tax will not be easy. In 1976 Boston proposed legislation to enact such a tax, but the measure was defeated by the business community. After a pitched battle, Oregon is currently the only state to permit the use of a payroll tax for transit (see appendix J).

Local income tax is presently unconstitutional in Massachusetts: The Commonwealth's current income tax laws stipulate that "citizens may not be subject to a tax in one tax jurisdiction that is not imposed on citizens in another jurisdiction." This means that an income tax cannot be levied on the towns of the MBTA district alone. Such a tax must be imposed on all communities in the state. Although a local corporate payroll tax is theoretically legal, it may face a constitutional court battle as a thinly disguised income tax.

The revenue potential of the payroll and local income taxes is so high that these options must remain under consideration for the MBTA.

3.1.5 Miscellaneous Taxes (e.g. Utility Tax)

Although there is no compelling connection between miscellaneous taxes and transit funding, such taxes are used in some cities. These are primarily taxes on utility services, real estate transactions, and corporate profits. New York is the leader in the use of miscellaneous taxes to subsidize transportation. Excess water and electric charges are applied to transit, as are funds from a corporate profits tax and mortgage recording tax.

These taxes will not be evaluated further because they lack a clear connection to transit, and because the MBTA faces stiff competition for these funds from projects like the Boston Harbor clean-up.

3.2 Non Tax-Based Funding Strategies

Non tax-based funding strategies are employed by transit systems across the country to supplement transportation revenue. In general they do not produce enough money to be considered an alternate source of funding. The following non tax strategies will be examined: 1) capturing a portion of the benefit which a transit investment itself has generated; 2) using transit authority property to raise revenue; 3) allowing transit agencies to leverage their assets or issue debt; 4) running a state lottery.

3.2.1 Value Recapture Techniques

The "value recapture" category of financing strategies has generated considerable interest as an incremental contributor to new start projects. These financing techniques seek to use traditional municipal revenue sources--land-based fees--to create a credit or a source of cash flow that can be capitalized. The major strategies in this category include:

- benefit assessment district financing
- tax increment financing
- transit impact fee
- negotiated investments.

While these strategies have proved effective elsewhere--and may well be useful to the MBTA for pursuing future capital improvements such as new rail lines or extensions (transit to Fan Pier is a case in point) or new stations--they do not represent significant opportunities for generating revenues to meet the MBTA's operating expenses. Based on their use in other transit systems, these techniques appear to have very limited potential for generating revenue for existing services and are difficult to implement and administer. They will not be discussed further.

3.2.2 Use of Property Rights

The MBTA already raises revenue from its property by leasing/selling existing facilities or development rights, land banking, selling advertising rights, and leasing concessions or commercial space. Of all these, lease/sale of development rights can generate additional revenue.

The "Ts" extensive land holdings represent a rich potential source of funds.¹ Property rights and air rights over transit facilities, as well as portions of the facilities themselves, can be leased or sold or developed jointly with private parties. In the cases where this strategy has been pursued successfully, the air rights over a station, yards or terminals--or space within an Authority-owned structure--are leased to a developer who agrees either to construct a building or establish a commercial use within the transit facility. The private party pays the transit authority either a fixed annual rent or a rent based on a fixed percentage of gross lease or sale income.

The MBTA currently has a number of joint development projects in the

¹An unpublished MBTA Advisory Board study reported that, as of mid-1986, the MBTA owned approximately 65 miles of rapid transit and streetcar right-of-way, 150 miles of former Penn Central right-of-way, over 250 miles of former Boston and Maine right-of-way, 86 transit stations, 92 commercial rail stations, several dozen maintenance and other facilities, and the operations center in downtown Boston. These land holdings include most of the land on which the track and buildings sit, as well as additional land adjacent to many of the stations.

works. In March of 1987, the Authority selected a real estate management firm to lease and develop South Station Terminal in Boston. The firm signed a 35 year lease to develop office and rental space within the station. Under the terms of agreement, the MBTA will have full veto power over any proposed plans and will receive not only rent but also a portion of the developer's net profits.

As of mid-1987, the "T" has lease plans for the Route 128 railroad station, and the subway stops at Auditorium, Newton Centre, and "Downtown Crossing". The MBTA has also bid out parcels of land in the Southwest Corridor (in conjunction with the Orange Line relocation) to private developers.

In addition to leasing facilities and development rights, the MBTA can also generate income through its land holdings by establishing a subsidiary with the power and resources to develop MBTA-owned land. The subsidiary's profits are passed on to the transit authority as operating income.

At present, the MBTA is actively involved with various strategies to generate income from its vast property holdings. While these lease/sale arrangements provide supplemental income, they cannot be considered a major source of "T" funding.

3.2.3 Issuance of Debt/Leveraging Assets

This category of income-producing strategies consists of ways to finance and/or reduce the overall costs of capital expenditure. The mechanisms, which rely either on the issuance of long-term debt or the leveraging of assets to gain tax-related benefits, include equipment trust certificates, safe harbor leasing, lease/purchase agreements, vendor financing, export credit financing, interest arbitrage, revenue anticipation notes, and issuance of bonds.

The MBTA already has used several of these strategies--safe harbor leasing, lease/purchase agreements and vendor financing--to purchase vehicles. While safe harbor leasing is no longer permitted, the Authority is pursuing to the maximum extent, the use of lease/purchase

agreements and vendor financing to reduce the costs of vehicle acquisition.

The MBTA has used extensively general obligation bonds to finance capital expenditure. This strategy, however, does not generate new operating revenues. On the contrary, debt service payments on the bonds increases the "T"'s operating costs.

The ability of any public agency to generate income through leveraging its assets has been curtailed by the 1986 Federal Tax Code. New tax laws place strong restrictions on the use of an agency's tax exempt status to reap investment benefits. The net potential revenue to the MBTA through leverage is insignificant.

At this time, it does not seem advisable for the "T" to attempt to lower debt service by restructuring its outstanding debt. In 1987, the MBTA undertook a large refunding of a high coupon debt. Based on the outstanding debt service, it appears unlikely that any substantial savings can be realized through further advance refundings.

3.2.4 Lottery

Only two states, Pennsylvania and Arizona, use the proceeds of lotteries to fund public transit.

In 1987, Massachusetts lottery games generated over \$400 million, but none of it into the coffers of public transportation. By law, proceeds from the lottery are allocated to cities, towns, and districts through the Local Aid Fund. As currently structured, Local Aid Fund revenues can be used only for local aid in "...amounts as may be appropriated for state assistance, reimbursements and distributions under general and specific law..."² Under state law, "...any additional distribution from this fund shall be used solely for the reduction of property taxes." Given this legal stipulation, there appears to be no realistic potential

² source: Commonwealth of Massachusetts, "Information Statement" (Appendix A of MBTA Bond Official Statement, September 24, 1986).

for allocating any lottery funds to the MBTA without reducing the allotment to cities and towns. The only way that the "T" can generate funds from a lottery is to establish a new one with at least a portion of its income dedicated to transit.

Despite the legislative difficulty of starting up a new lottery, it represents the richest revenue-producing potential of any non tax-based source of "T" income. If tax-based financing strategies prove unworkable because of the tax revenue cap, then lottery games represent the best alternative source of "T" financing. (see appendix J for PA and AR lotteries). The major drawback to the institution of a new lottery for transit financing is the possibility that the public has reached the saturation point with lotteries.

Summary

This chapter has identified and described potential alternative sources for funding the MBTA operating deficit. Of the two major categories--tax-based and private sector financing strategies--the former represents by far the most promising and lucrative source of funds. Sales, gas, and income taxes are used extensively nationwide to fund transit systems, and typically yield a large portion of operating expenses. Taxes--either dedicated or discretionary--on sales, auto-use (gas and parking), and income or payroll will remain under further consideration.

The existence of the tax revenue cap in Massachusetts, however, may significantly reduce the feasibility of employing tax-based strategies. In this event, only the institution of a new state lottery appears to have the requisite income-producing potential. Other non tax-based strategies may be capable of generating revenue for the "T" but not on the same magnitude as new taxes.

CHAPTER IV: FURTHER EVALUATION OF ALTERNATIVE REVENUE SOURCES

Based on preliminary examination, four alternative sources of revenue have been chosen for further analysis: Sales tax, auto-use taxes, payroll/ income tax, and the lottery. The income potential (annual dollar yield) of each of the four sources will be studied as well as public acceptability, stability, equity, economic side effects, and ease of implementation.

4.1 Revenue Goals for Funding Sources

In order to assess and compare the revenue-producing power of the four potential sources, we have set three arbitrary funding goals for the MBTA.

4.1.1 At funding level one an alternative financial source needs to provide annually enough money to cover short-term growth in MBTA operating expenses, without reducing the contribution from any existing source. The major goal at the first funding level is to limit the rate of growth in the state's payment of MBTA expenses. (As discussed in Chapter II, growth of the state's contribution to the MBTA now exceeds overall growth in state spending. Because state funds are the only MBTA revenue source currently without constraints, they have been covering a disproportionate share of the increase in transit costs.) To meet the requirements of the first funding level, an alternative revenue source must generate enough income to hold growth in MBTA expenses roughly equivalent to overall increases in state expenditures. Stabilizing the state MBTA contribution will ensure its continuation despite any limits imposed on state expenditures by the revenue cap.

4.1.2 At the second funding level an alternative revenue source must provide sufficient income to cover 50% of the net assessable cost of service. Currently, in the era of Proposition 2 1/2, the state absorbs nearly 60% of the net cost of service, while local and other funds cover the remaining 40%. At funding level two, the state's

contribution will return to 50%; the alternative source of revenue will cover the local share of the net cost of service. The state continues to pay other forms of contract assistance; the "T" collects federal aid and its own income.

4.1.3 At the third funding level; the alternative revenue source must pay 100% of the net cost of service. The state continues to provide other forms of contract assistance (primarily debt service costs for capital expenditures). Federal aid continues, and the "T" collects its own fare-related income.

4.2 Revenue Requirements for the Three Funding Levels

The potential of a funding source for the MBTA rests, of course, on its ability to meet the revenue requirements for any of the three levels. To estimate how much money each level will need in the near future, assumptions are made about the growth rate in a) overall MBTA expenses and b) existing sources of financing: "T" revenue, plus federal, state, and local funds. To avoid extreme examples and to keep the analysis manageable, only three possible situations have been reported: trend, worst, and best case scenarios.

The trend case assumes that the approximate, current rate of growth in each category will continue, while the worst and best case scenarios assume (within limits) pessimistic and optimistic circumstances respectively. Growth in MBTA expenses: **Trend Case** assumes an 8% annual increase based on past three year average; **Worst Case** anticipates a 10% increase based on high inflationary projections; **Best Case** assumes a 4.5% increase based on the completion of costly system rehabilitation coupled with a low inflation rate. These projections apply to all three funding levels.

Growth in MBTA revenue: **Trend Case** projects an annual increase of 3% assuming continued efforts to increase ridership, improve revenue accounting, pursue additional leasing, and institute periodic fare hikes; **Worst Case** anticipates no growth in annual income; **Best Case** assumes an annual increase equal to the growth in MBTA expenses,

that is, a constant fare recovery ratio, necessitating small, frequent fare increases. These assumptions apply to all funding levels.

Growth in Federal funds: **Trend Case** predicts a 0% rate because federal funding has remained constant in recent years; **Worst Case** anticipates a 5% annual reduction; **Best Case** assumes a 5% annual increase. These projections are applicable to all levels of funding.

Growth in state expenditures: Only funding level one requires an estimate in the growth of overall state expenditures, because contribution to the MBTA must grow at the same pace. **Trend Case** assumes an annual increase of 8%; **Best Case** projects 10% reflecting the high growth rate of recent years; **Worst Case** assumes a 6% increase. At the second funding level, the state contributes 50% of net assessable cost plus contract assistance (primarily, debt service costs for capital expenditures). The latter is expected to increase 10% annually for **Trend, Best, and Worst Cases**. At level three, state funding consists only of such contract assistance.

Growth in local funding: At level one, local funds are limited to 2.5% for the **Trend, Best, and Worst Cases** alike. At levels two and three, the alternative source replaces local funds entirely.

All estimates of growth in revenue and expenses have been tallied for the trend, best and worst cases. The difference between income projections and anticipated expenses determines the approximate dollar figure needed to meet each of the funding levels (see Table 4.1).

During the first year at funding level one, based on trend case estimates, an alternative source must yield \$13 million to cover the growth in MBTA expenditures. By the fifth year, the requirement will be \$80 million. If the best and worst case projections are applied at level one, the revenue requirement ranges respectively from \$0-\$31 million during the first year and from \$0 to \$196 million in the fifth. Although such a wide range is possible, trend case figures will be used

Table 4.1

Revenue Goal Estimates for Alternative Sources (in millions)

Level 1. (Additional funding required to limit growth in State contribution to MBTA to a rate equal to overall State expenditure growth).

Year	Trend	Worst	Best
-----	-----	-----	-----
1	\$13	\$31	\$0
2	\$27	\$66	\$0
3	\$43	\$105	\$0
4	\$61	\$148	\$0
5	\$80	\$196	\$0

Level 2. (Funding required to provide 50% of net assessable cost).

Year	Trend	Worst	Best
-----	-----	-----	-----
1	\$132	\$139	\$122
2	\$146	\$161	\$124
3	\$161	\$184	\$126
4	\$177	\$210	\$128
5	\$194	\$238	\$130

Level 3. (Funding required to provide 100% of net assessable cost).

Year	Trend	Worst	Best
-----	-----	-----	-----
1	\$264	\$278	\$244
2	\$292	\$321	\$249
3	\$322	\$368	\$253
4	\$354	\$420	\$257
5	\$389	\$477	\$260

Calculations based on 1985 levels of funding and expenses; future year estimates based on the following assumptions:

- MBTA Exp. - Trend=+8%, Worst=+10%, Best=+4.5% (all levels)
- MBTA Revenue - Trend=+3%, Worst=0%, Best=+6% (all levels)
- Federal Asst - Trend= 0%, Worst=-5%, Best=+5% (all levels)
- State Funds - Trend=+8%, Worst=+6%, Best=+10% (Level 1 only)
- State Cntrt Asst - Trend, Worst, Best =+10% (Levels 2&3)
- Local Funds - Trend, Worst, Best =+2.5% (Level 1 only)

to provide the estimated revenue requirement for level one. Any alternative funding source, therefore, capable of generating from \$25-\$75 million annually will be deemed adequate to meet the funding requirement for level one.

For level two, an alternative source must generate--based on trend case figures--approximately \$130 million in the first year and \$195 million in the fifth. Thus, an annual yield of \$150 million from an alternative source will be adequate to meet the goal of funding level two. Since the aim of level three is to assume 100% of the MBTA's net assessable cost, the revenue requirement for this level must be twice that of level two. To meet the requirements of level three, an alternative source must generate annually a yield of \$300 million.

Please note: Table 4.2 illustrates a short-term strategy to improve productivity and increase the fare recovery ratio in order to postpone the need to seek any additional or alternative funding for the "T". The table suggests that if expenses are held to a low growth rate, if fare revenues keep pace with expenses, and if the state economy remains healthy, no additional revenue sources need be sought in the immediate future. In fact, if fares were increased to the point where system revenues covered 40% of operating costs, and increases in expenses were limited to 6% per year, the state contribution would only have to increase 6% per year.

4.2.1 Evaluating the Sales Tax as an Alternative Funding Source

The sales tax--in many conceivable forms--represents a lucrative potential source of funding for the MBTA. Depending on how the tax is applied, it easily can meet the funding requirements of all three levels.

The tax may take the form of an increase in the existing rate or the extension of sales tax to previously exempted items and services. A sales tax, for example, can be applied to alcohol, which currently is subject only to a separate excise tax. The sales tax may be dedicated to transit and highway use only, or, more likely in Massachusetts,

Table 4.2

Scenarios Requiring No Additional Funding

Annual Percentage Growth Rate			
<u>MBTA Expenses</u>	<u>MBTA Revenue</u>	<u>Federal Funds</u>	<u>State Funds</u>
("Best" Case Scenario - Available Funds Exceed Expenses)			
4.5%	4.5%	5.0%	10.0%
Other Scenarios Requiring No Additional Funds			
4.5%	4.5%	5.0%	5.5%
4.5%	4.5%	0.0%	6.0%
4.5%	0.0%	5.0%	8.0%
4.5%	3.0%	5.0%	6.0%
6.0%	6.0%	0.0%	8.0%
6.0%	6.0%	5.0%	7.5%
6.0%	3.0%	0.0%	10.0%
7.5%	7.5%	5.0%	10.0%

distributed to local communities for discretionary use. The jurisdiction of the sales tax may be state-wide or limited to the 78 member communities of the MBTA. It can be administered as a local option tax.

If the sales tax is used to meet the goals of funding level one, a new or increased tax on specific items is sufficient to raise the requisite money. For example, a 5% sales tax on alcoholic beverages statewide (in addition to the existing excise tax) will generate over \$40 million annually. A 50% increase in the current alcohol excise tax will yield about \$40 million. To meet the revenue needs of levels two and three, however, the sales tax must be more broadly applied. A 1% sales tax (retaining current exemptions), levied only in the MBTA District, will yield about \$160 million. A 1% levy statewide, or a 2% district tax, will generate around \$320 million. (see Table 4.3 and Appendix E).

4.2.1.1 Stability of the Sales Tax

The experience of other transit systems, which derive funds from the sales tax, indicates that it grows reliably and keeps pace with inflation. That is, yield from the sales tax increases as prices increase. Thus, it is not necessary to adjust the tax rate every few years. The tax, however, is somewhat volatile, because it is dependent upon the volume of retail sales. Sales volume reflects the health of the local economy. In boom times, sales tax revenues increase by more than the increase in prices, but in slack times the converse is true. The volatility of the sales tax is not viewed as a critical shortcoming, however, because transit service expenses are more likely to rise during an economic upswing.

The stability of excise taxes, by contrast, is not as good, because the tax is applied as an amount per unit. Revenue grows only as consumption increases, thus making excise taxes appropriate only in the short term.

Table 4.3

Summary of Estimated Yields for Alternative Sources

<u>Source & Rate</u>	<u>Annual Revenue Yield</u>		
	<u>Level 1</u>	<u>Level 2</u>	<u>Level 3</u>
<u>Sales Tax</u>			
o \$.05 increase in tax on cigarettes	\$30m		
o 50% increase in alcohol excise or apply 5% sales tax to alcohol	\$40m		
o 1% tax in region		\$160m	
o 2% tax in region or 1% statewide			\$320m
<u>Auto Use Taxes</u>			
o \$.20 toll increase in region	\$25m		
o 15% tax on parking in Boston	\$25m		
o \$.02 increase in state gas tax	\$50m		
o \$.05 gas tax in MBTA District	\$60m		
o \$.05 increase in state gas tax		\$125m	
<u>Payroll or Income Tax</u>			
o \$2/mo. income tax in region	\$35m		
o 0.5% payroll tax in region		\$175	
o 1% payroll tax in region			\$345m
o 20% regional income tax surchge.			\$385m
o 2%/1.5%/1% payroll tax ¹			\$530m
<u>Lottery</u>			
o New game		NA ²	

¹ This proposal calls for a 2% tax in communities with rapid transit service, 1.5% in communities with over 150,000 revenue miles of service, and a 1% tax in all remaining "served" communities in the MBTA region.

² The lottery yield cannot be predicted with any certainty, but would likely be less than the current games' yield of approximately \$200 million each.

See Appendix E for a description of assumptions and sources.

4.2.1.2 Public Acceptability of the Sales Tax

The economic feasibility of a given revenue source becomes academic if the citizens reject it.. Although it is possible to influence public opinion through skillful leadership, the task is more difficult if a widely and strongly held viewpoint must be overturned.

As one means of sampling public reaction to proposed funding sources, four focus groups, comprised of ordinary residents and businessmen from the MBTA District, were assembled and their reactions to proposed sources recorded. While the opinions of these groups may provide some intuitive insight into acceptability of a given funding source, they cannot be seen as definitive.

In the case of the sales tax, reaction from the focus groups rated sales tax acceptability in the mid to low range. Because the sales tax is a visible tax , they argue, consumers notice when it increases. Although the existing Massachusetts rate is relatively low, members of the focus group compared it unfavorably to the non-existent sales tax in neighboring New Hampshire. The groups responded more favorably to the idea of taxing specific items but did not respond well to the idea of expanding the base of taxable items. In discussing whether a tax should be regional or statewide, the reaction was mixed.

When evaluating the opinions of citizen focus groups, it is necessary to remember that almost all voters react viscerally to the mention of increased taxes. One has only to note the studious care which both political parties are taking this Presidential election year to avoid the hint of a tax raise, to perceive the public's instinctive aversion to taxes. But knee jerk reaction ultimately will not determine the acceptability of a funding source. The very fact that a sales tax already exists and that Massachusetts taxes consumer goods at a comparatively low rate can be used just as easily to argue for acceptance of a sales tax increase as to argue against it.

4.2.1.3 Equity of the Sales Tax

A recent study by the Massachusetts Special Commission on Tax Reform found the Massachusetts sales tax one of the least regressive in the nation. Its horizontal equity is good because everyone pays the tax, and people at the same income level pay similar amounts. The Massachusetts tax has achieved some degree of vertical equity with wealthier citizens paying more than poorer ones. The Commission report states that an increase in the taxes on specific items such as cigarettes, hair cuts, and laundry will increase the regressivity of the tax, while taxing alcohol and entertainment will not have such an unfair effect.

4.2.1.4 Administration of the Sales Tax

An increase in the sales tax poses no administrative challenges. Funds from any tax increase can be collected through existing channels and set aside in a separate account. Expanding the tax base to items previously untouched, however, will require new collection mechanisms and therefore will not be as easy to implement.

4.2.1.5 Economic Incentive or Side Effects of Sales Tax

The Special Commission report on the Massachusetts sales tax cites a 1.5% loss in retail sales as a result of the existing tax. An increase in the sales tax is likely to reduce consumption even more. The untaxed goods and services of New Hampshire may appear more attractive to Massachusetts residents. To the extent that a sales tax encourages out-of-state consumption, it induces a negative effect.

4.3 Evaluation of the Auto Use Taxes

Gasoline and parking are the two auto-related taxes under consideration. The motor fuel tax can be increased either by a percentage or by cents per gallon. (Currently, gas is taxed either at 10% of the wholesale price or \$.11 per gallon, depending on which is higher). Such a gas tax can be implemented locally or statewide, with its proceeds going directly to the MBTA or to the state or localities for transit.

A parking tax may be applied as a percentage to commercial parking fees or to all off-street parking whether private or non-commercial. It may also be possible to tax parking violation tickets. Such a tax may be levied statewide, locally, or only in downtown Boston. But considering the failed effort to pass a parking tax measure through the legislature in 1981, this looks like an unlikely revenue source for the MBTA.

Either of the auto-related taxes can provide funds for levels one and two but not three. A \$.02 increase statewide on gasoline will yield \$50 million annually. Raising the cost of gas \$.05 per gallon across the state will generate \$125 million, while applying the tax only in the MBTA District will produce \$60 million a year. Parking tax alone can only generate adequate funds for level one. For example, a 15% tax on all downtown Boston parking yields about \$25 million annually.

4.3.1 Stability of Auto-Use Taxes

Neither of the auto-related taxes will provide growth stability.

Specifically, the gasoline tax will not grow and may, over time, decline. Because gas prices are currently low, gas is taxed at the \$.11 per gallon rate. In order to implement the percentage tax on gas, prices will have to double. Hence, the only growth in revenue from such a tax will be contingent on increased driving. Conversely, if auto traffic declines, revenues will decrease.

4.3.2 Public Acceptability of Auto-Use Taxes

The Chicago RTA was forced to abandon its plan for a gas tax in favor of a general sales tax because the public perceived the former as punishment for drivers. Members of the four citizen groups echoed this sentiment and deemed auto-use taxes unfair. Some participants felt that auto-taxes, levied in conjunction with a rate hike for the T, might be more equitable. In general, people voiced support for the tax that cost them the least money. Businessmen expressed concern that a gas tax will penalize commercial vehicles unduly.

4.3.3 Equity of Auto-Use Taxes

Auto-related taxes do not achieve horizontal equity because they are not as broad-based as the sales tax. People in one economic group who drive will pay considerably more than their peers who do not. The regressivity of the gas tax is similar to that of the sales tax, only worse. There is no data available to assess the vertical fairness of a parking tax.

A parking tax in Boston will target a certain group in a locale where parking fees are already the highest in the state. Arguably, however, those who work in Boston as part of the vast commuter influx into the city, rightfully may be expected to help finance the growing need for public transit.

4.3.4 Incentive or Economic Side Effects of Auto Use Taxes

Auto use taxes do have the potential of reducing the number of cars on the road, increasing carpool activity and T ridership. This positive effect may be offset if auto-related taxes merely reduce the number of trips people make into Boston.

4.3.5 Administration of the Auto Use Taxes

Only if the gas tax is applied as a local option tax does it pose any administrative problems.

A parking tax will require a new collection system, relatively simple to administer if the tax is on commercial parking only and tediously complex if data on all available off-street parking must be gathered and fees assessed. Taxes on parking meters or on parking violations will also pose major administrative difficulties.

4.4 Evaluation of the Payroll or Income Tax

A corporate payroll tax can be imposed on employers in the region as a percentage of the payroll or as a per-worker tax. It can be applied universally (even among the self-employed) or restricted to companies larger than a certain number of employees. It can be applied at varying rates within communities depending on their level of MBTA

service. An income tax can be levied as a percentage surcharge on the state income tax of all residents of the MBTA District.

Payroll/income taxes can be designed to fulfill the income requirements of each of the three levels. A monthly tax of \$2 per employee will generate around \$35 million per year. A 0.5% tax on all employees in the region will produce about \$175 million.

Because of its great revenue-generating potential, a payroll or income tax makes the most sense if the T seeks an alternative source at level three. A regional one percent payroll tax will yield as much as \$345 million, while a 20% regional income tax surcharge will bring in about \$385 million.

4.4.1 Stability of the Payroll/Income Tax

Both payroll and income taxes demonstrate a high level of growth stability. Each will keep pace with inflation and overall economic activity. When the economy is strong, there will be more employment, higher payrolls, increased revenues, and a greater need for public transit. In down times, revenue from this source will decline, but the payroll tax is less vulnerable to swings than the sales tax. Although both are volatile, the payroll/income tax follows the path of personal income more closely than the sales tax.

4.4.2 Public Acceptance of the Payroll/ Income Tax

Given the fact that a regional income tax is unconstitutional in Massachusetts, that the anti-tax climate persists very strongly in the Commonwealth, and that the citizen focus groups rejected the notion of an increased income tax out of hand, the latter will not be considered further.

With strong reservations, the payroll tax, because of its enormous revenue potential, will remain under consideration. In 1979 the MBTA Advisory Board accepted a proposal for a payroll tax which would have imposed a 2% tax in communities with rapid transit service, 1.5% tax in communities with over 150,000 revenue miles of

service, and 1% levy on all remaining communities with T service. If this proposal were in operation today, it would yield more revenue than the T needs for level three--\$530 million. Apparently, in the general furor over Proposition 2 1/2, the payroll tax proposal was never vigorously pursued and died of neglect. It seems fairly clear, furthermore, that the ever-vigilant, anti-tax movement within the Commonwealth's high tech industry will rally against a payroll tax. Members of the citizen groups displayed a variety of opinion, with businessmen leading the voices against.

4.4.3 Equity of the Payroll Tax

Of all alternative revenue sources under consideration, the payroll tax is the most equitable--both horizontally and vertically--because it is directly tied to income. If the self-employed are excluded from the base, however, the tax becomes less fair because some upper income people will pay nothing. Any payroll tax fails at the highest income levels due to considerable non-wage income.

4.4.4 Incentive or Side Economic Effects of the Payroll Tax

A payroll tax may have a chilling effect on Massachusetts business. Employers may be tempted to cut the work force, or reduce wages by passing the payroll tax on to employees. It is conceivable that some businesses relocate as a result of a payroll tax, although Portland, Oregon has experienced no such pull-outs. If the tax is applied only to businesses with a certain number of employees, this may cause some further complications. Companies of different size, producing the same product in the same region could experience different costs.

4.4.5 Administration of the Payroll Tax

The machinery for collecting taxes based on a percentage of payroll exists, but the payroll tax itself will be a new tax. As such it will need rules and procedures. It may significantly increase the work load of the Department of Revenue or require a new institutional body to ensure compliance.

4.5 Evaluation of the Lottery

For the following reasons we discourage serious consideration of starting a new lottery--statewide or MBTA District--as an alternative funding source:

1. There is no evidence to suggest that the already heavily populated field of state games can support a newcomer. As a result, it is impossible to predict a yield for the lottery or to make any realistic assumptions about its stability as a source.

2. Although the lottery is a "volunteer" source of support, as a percentage of income, lottery receipts come disproportionately from lower income citizens.

4.6 Funding Sources for Further Consideration

Three sources of funding for the MBTA remain under evaluation: sales tax, auto-use taxes, and the payroll tax.

CHAPTER V: RECOMMENDATIONS AND CONCLUSIONS

The economic circumstances of state government have changed dramatically since this study began in 1986. Massachusetts has moved from the enviable position of a budgetary surplus to the reality of a revenue crisis. The swiftness of this financial turnaround demonstrates both the wisdom of the Advisory Board in seeking funding alternatives in a time of relative prosperity and the necessity of acting now to avert a crisis which may be closer at hand than anyone realized just months ago.

5.1 In-House Recommendations

Before the MBTA seeks any new revenue sources, however, it must renew efforts to increase its own income. Currently, the "T" meets only 25% of its expenses. This figure does not compare favorably with other urban transit systems and is probably too low to convince citizens to pay more to support public transportation. The "T" needs first to work harder to keep its costs down, to maximize revenue from other sources such as leasing and advertising, and finally to adopt a schedule of fare hikes. Given the tough anti-tax climate of Massachusetts and the sudden new tightness of funds at the state level, MBTA management must strengthen its commitment to controlling costs and boosting income in order to justify either additional or alternative financing.

The "T" management must reassert its commitment to improving productivity and increasing the fare recovery ratio. It will not be easy to use all Management Rights provisions, or set limits on wage increases, or reduce low-use services, or institute fare hikes, but such measures will be necessary in order to limit the annual increase in the operating deficit. As difficult as these managerial actions may be, inaction poses a far greater threat to the health of the "T". In recent years the MBTA has grown increasingly dependent on the state for financing because all other funding sources were limited in growth. Now, it appears that the flow of revenue from the state itself may be narrowed and the competition for funds at the local wells may become

very intense. As the MBTA enters this period of economic uncertainty in Massachusetts, it must redouble efforts to increase its own efficiency and productivity.

5.2 Short Term Strategies

Given the budgetary question marks as well as the possibility of major "T" expansion in the future, the need for alternative revenue sources seems clear. What is not so evident, is which tax source poses the best solution.

5.2.1 Funding Sources

Three general sources of funding survived evaluation from earlier examination: sales tax, auto use taxes (gas and parking), and the payroll tax. (Appendix K summarizes the relative rating of each source with respect to the evaluation criteria.) While each source appears especially strong in some categories, no one source emerges as the clear best choice. Selecting the right financing mechanism is really a strategic decision and may vary according to priorities and to the economic and political tenor of the times.

5.2.2 Local Option Gas Tax

The prevailing tax mood in Massachusetts suggests that the MBTA will have the most success in the immediate future with a short-term solution such as a non-dedicated local option tax. Because such a tax will be imposed locally, communities will maintain close control over use of the revenues and will determine overall and specific levels of MBTA service. Since the tax revenue is discretionary, local towns can weigh the needs of public transit against other competing community services.

The most important criteria for choosing a short-term funding source are public acceptance, ease of administration, and relationship of the tax to benefits. Based on these, a gas tax appears to be the most promising source of revenue. If a \$.05 tax were levied in all 78 communities of the MBTA district, nearly \$60 million in additional revenue would be raised. Given the reaction of the focus groups to the

implementation of a gas tax, the new levy should be accompanied by a transit fare hike. By boosting the cost of both private and public transportation, no one group feels singled out for the assessment. Citizens generally are more willing to pay a shared burden.

5.2.2.1 Amending Proposition 2 1/2

The implementation of a local option tax, however, poses an immediate problem. Because the local share of the MBTA deficit is capped at a 2.5% annual increase, bringing more money into local coffers will not change the way the MBTA is funded. That is, the relative state and local shares will remain the same with or without the added revenue from a gas tax. In order to increase the percentage of the operating deficit paid by localities, the 2.5% cap must be lifted. It was proposed earlier in this study that the state and localities strive to return over a period of time to a 50/50 split of the operating deficit. The resumption of this formula not only will increase the level of local control but also diminish the argument for greater state control.

Increasing the local share of the operating deficit will undoubtedly assure close scrutiny of MBTA expenses. Since revenue from the gas tax is not likely to grow over time, transit economizing will be critical to local communities. If "T" costs are not held in check, the added revenue from local option taxes will soon be outstripped by expenses. In just four years, at the current 8% annual growth in "T" expenses (assuming no fare hike), the increase in the local contribution to the MBTA will exceed the potential revenue from a \$.05 gas tax.

When examined on a town-by-town basis, the need for cost control and a fare increase becomes dramatically apparent. Although most district towns will benefit from a gas tax and a higher assessment (see Appendix G), many inner communities will be significantly worse off. Boston is the best case in point. Because it already shoulders a large chunk of the local MBTA assessment, returning to a 50/50 state-local split will boost Boston's transit bill beyond potential gas tax revenues. But if fares are increased and costs reduced, the resultant reduction in the net cost of service will lower Boston's assessment. (Appendix H

shows a town-by-town assessment with an 8% annual growth in "T" expenses, but with fare increases over three years to the point where revenues will cover 40% of operating cost). In this scenario, all district communities gain net revenue for three years. If MBTA cost increases are held under 8% annually, the towns may continue to gain revenue for many years. This will provide a strong incentive for local governments to control MBTA costs. (If the Boston assessment is still too high, consideration should be given to revising the formula or matching the Boston gas tax revenue with state funds).

5.2.2.2 Amending the State Tax Cap

The major obstacles to implementing this local option short-term strategy are the two referenda caps passed by Massachusetts voters: Proposition 2 1/2 and the state tax cap. The former must be amended to permit the local assessment for the MBTA to exceed 2.5% a year, and the latter amended to exclude revenue from the local option gas tax from calculation of total state revenue. Without such amendment, the state revenue cap will be lowered by approximately \$60 million.

5.3 Long-Term Strategies

It is conceivable that if the "T's" deficit is limited by improved productivity and increased fares, short-term financing strategies may suffice for a time into the future. But it would be very unwise, in the face of a changing state budgetary scene and the prospect of transit expansion, not to plan for medium and high-yield funding.

5.3.1 Sales and Payroll Taxes

It is difficult to choose between the sales and payroll taxes for higher funding levels, since both represent a stable and equitable source of revenue. Although more visible to taxpayers than the payroll tax, the sales tax is slightly preferable because it can be added onto the existing state tax. To avoid the "border effect" the tax should be applied not as a local option but uniformly across the state. The 1% tax should provide the communities within the MBTA district (Boston and other inner towns will need general local funds as well) with enough revenue to free property tax income for other purposes.

In order to divide the proceeds between the MBTA district and the rest of the state, some formula--by population, by local aid, by per capita assessment--must be devised. If, for example, the sales tax is structured so that money is returned to communities in proportion to how much is collected in each town or to the local aid formula, and the aggregate local assessment is set at a fixed portion of the net cost (50% or higher), then the towns will have the proper incentive for cost control. When sales tax revenue exceeds the local share of the net cost, communities will have "surplus" revenues for other needs. On the other hand, if the local share is higher than the tax revenue, towns must use general funds to meet their assessment.

Appendix I shows a town-by-town breakdown of the sales tax with revenues returned to the town where collected and the local share set at 50% of net cost.

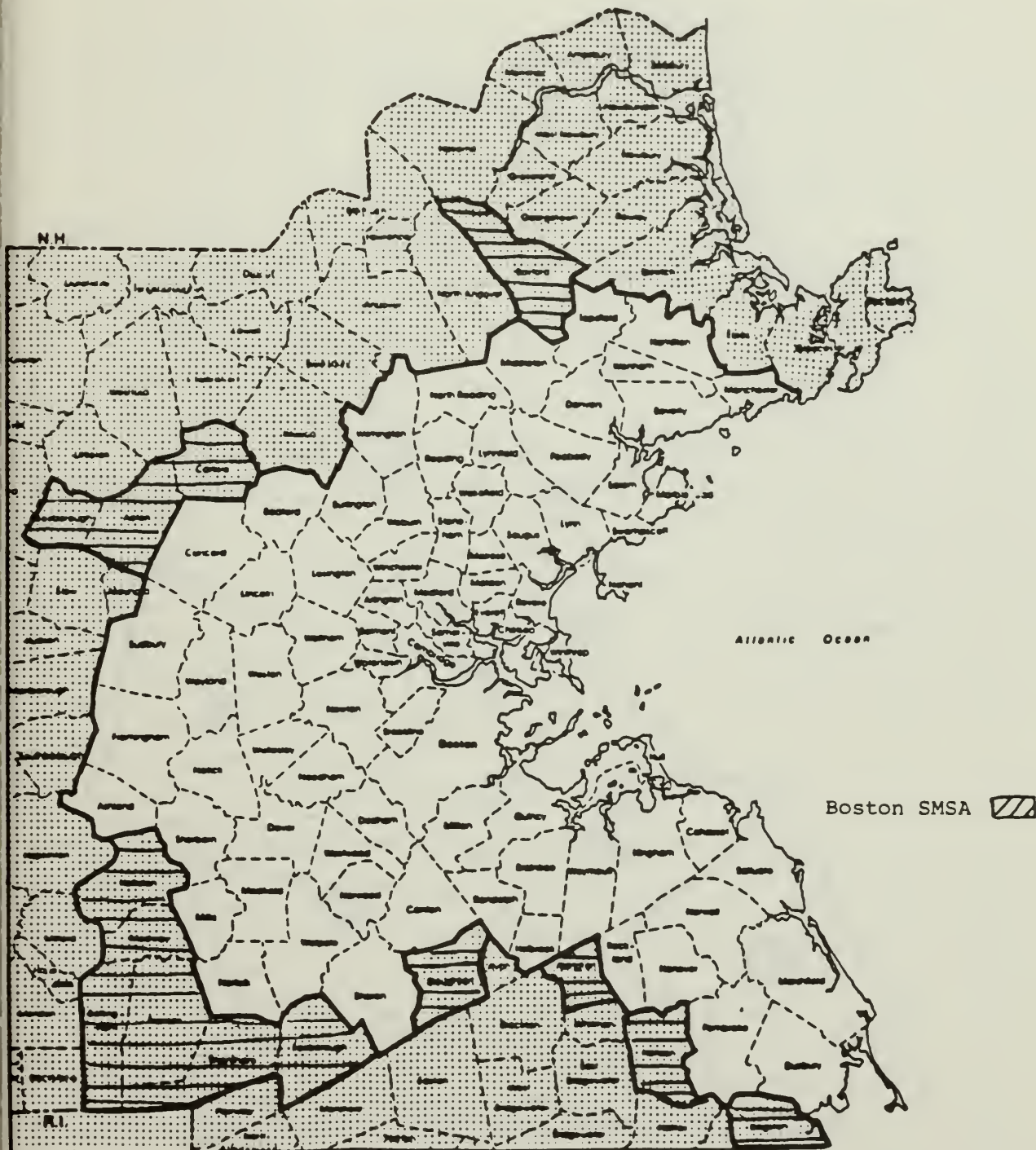
Summary

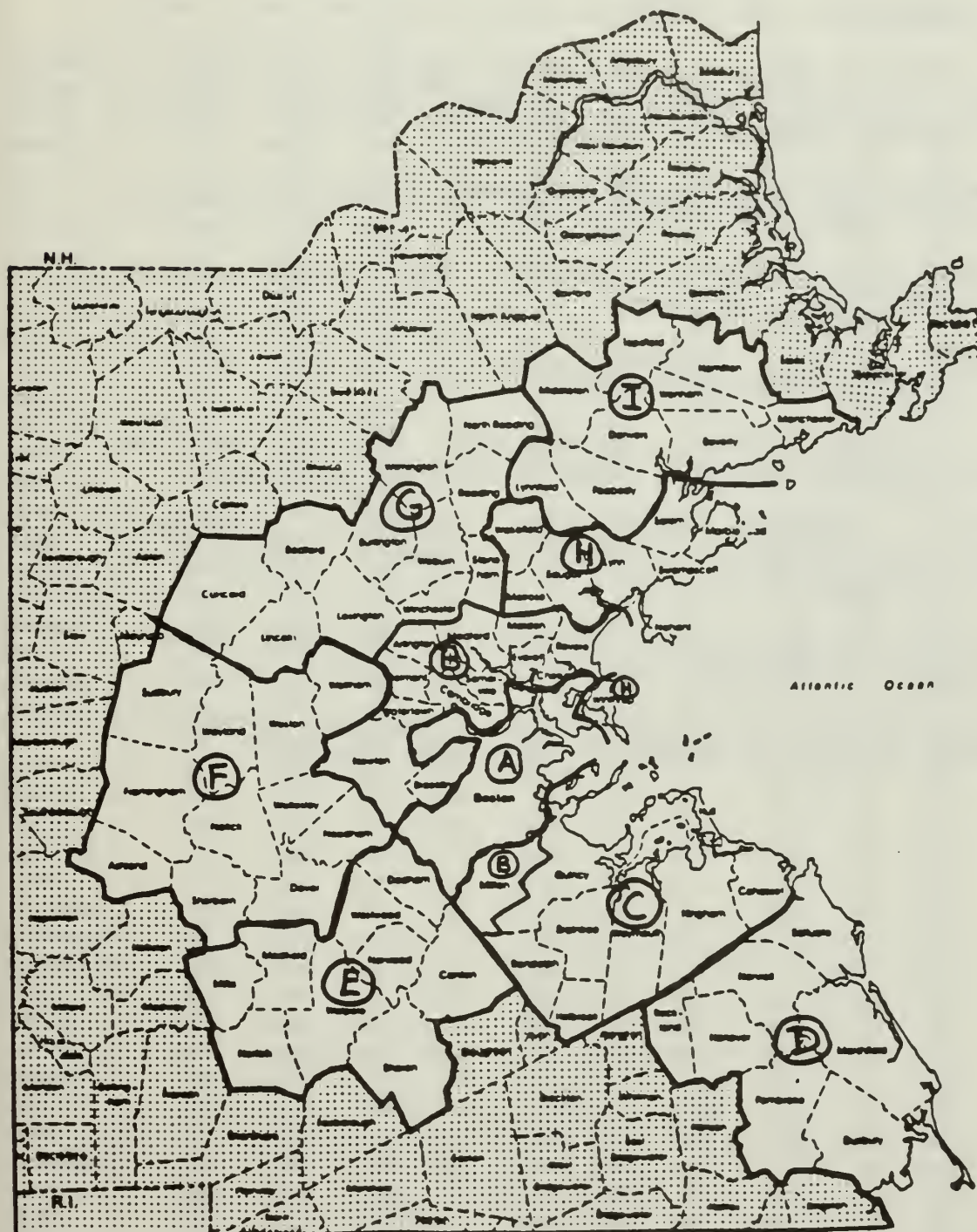
The MBTA has a chance to take charge of its economic future. Although the tasks of working an increase in the Massachusetts sales tax as well as amendments to Proposition 2 1/2 and the revenue cap seem staggering, the job must be started. As a first step, the "T" management needs to commit itself to maximizing profit just as it already has to improving internal efficiency. Although it is not known how long the budgetary downturn will last in Massachusetts, the time is right to begin considering new sources of local revenue to fund essential services like public transportation.

APPENDICES

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- B. Definitions of Sub-regions
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MBTA Service Area: 78 Member Cities and Towns





APPENDIX B

Definition of Sub-regions

- A. Boston - Boston
- B. Inner 13 Communities - Arlington, Belmont, Brookline, Cambridge, Chelsea, Everett, Malden, Medford, Milton, Newton, Revere, Somerville, Watertown
- C. South Shore Inner - Braintree Cohasset, Hingham, Holbrook, Hull, Quincy, Randolph, Weymouth
- D. South Shore Outer - Duxbury, Hanover, Marshfield, Norwell, Pembroke, Rockland, Scituate
- E. Southwest - Canton, Dedham, Medfield, Millis, Norfolk, Norwood, Sharon, Walpole, Westwood
- F. West - Ashland, Dover, Framingham, Natick, Needham, Sherborn, Sudbury, Waltham, Wayland, Wellesley, Weston
- G. Northwest - Bedford, Burlington, Concord, Lexington, Lincoln, No. Reading, Reading, Stoneham, Wilmington, Winchester, Woburn
- H. North Shore Inner - Lynn, Marblehead, Melrose, Nahant, Salem, Saugus, Swampscott, Wakefield, Winthrop
- I. North Shore Outer - Beverly, Danvers, Hamilton, Lynnfield, Manchester, Middleton, Peabody, Topsfield, Wenham

APPENDIX C

Town-by-town Revenue Sources and MBTA Assessment: 1985 and 1979 (\$000's)

		1987	1985	1985	1985	1985	% of	1981	1979	1979	1979	1979	% of	
		Assess	Levy	Rec'ts	Aid	LocTot	LocTot	Assess	Levy	Rec'ts	Aid	LocTot	LocTot	
Arlington	B	2289	29231	5365	11791	46387	4.9%	2165	30544	3381	4966	38891	5.6%	-
Ashland	F	230	6136	1375	2016	9527	2.4%	144	5673	545	1155	7373	2.0%	+
Bedford	G	248	12598	2249	2383	17230	1.4%	203	9269	982	1616	11867	1.7%	-
Belmont	B	1173	20188	3077	3962	27227	4.3%	1057	17566	2352	2344	22262	4.7%	-
Beverly	I	687	23453	3666	7947	35066	2.0%	561	20231	4052	4267	28550	2.0%	-
Boston	A	44004	363222	267402	354242	984866	4.5%	38956	436253	121518	203574	761345	5.1%	-
Braintree	C	828	23773	3022	8460	35255	2.3%	653	24565	1936	3851	30352	2.2%	+
Brookline	B	3923	48251	9800	10627	68678	5.7%	3216	45402	4562	4861	54825	5.9%	-
Burlington	G	611	22504	3221	6171	31896	1.9%	386	19381	2118	3135	24634	1.6%	+
Cambridge	B	5462	72370	47887	35358	155615	3.5%	5109	64407	28784	12194	105385	4.8%	-
Canton	E	358	12614	1979	4085	18678	1.9%	254	11625	1712	2244	15581	1.6%	+
Chelsea	B	1015	8883	2648	13661	25192	4.0%	976	14743	1378	4661	20782	4.7%	-
Cohasset	C	126	6330	628	1513	8471	1.5%	94	4951	481	854	6286	1.5%	+
Concord	G	277	15648	1350	2895	19893	1.4%	213	13077	1413	1751	16241	1.3%	+
Danvers	I	451	17369	32366	4914	54649	0.8%	410	15654	14393	2721	32768	1.3%	-
Dedham	E	594	16223	1772	5175	23170	2.6%	489	15166	1486	2918	19570	2.5%	+
Dover	F	96	4655	417	531	5603	1.7%	72	3536	225	447	4208	1.7%	+
Duxbury	D	198	10983	1753	2937	15673	1.3%	96	8493	1140	1996	11629	0.8%	+
Everett	B	1547	27537	3548	8080	39165	3.9%	1506	28008	3000	3362	34370	4.4%	-
Frammingham	F	1030	43687	7787	12747	64221	1.6%	826	38597	6498	8403	53498	1.5%	+
Hamilton	I	143	4433	522	683	5638	2.5%	110	3190	761	217	4168	2.7%	-
Hanover	D	194	6645	890	3589	11124	1.7%	150	6801	685	2057	9543	1.6%	+
Hingham	C	437	16303	1567	3866	21736	2.0%	315	12733	1324	2689	16746	1.9%	+
Holbrook	C	273	5191	550	3791	9532	2.9%	227	5257	560	1883	7700	2.9%	-
Hull	C	160	5819	1606	4274	11699	1.4%	154	7051	516	2250	9817	1.6%	-
Lexington	G	673	29633	3519	5316	38468	1.7%	579	23746	3179	4023	30948	1.9%	-
Lincoln	G	151	5010	1037	1231	7278	2.1%	139	3857	484	798	5139	2.7%	-
Lynn	H	1385	36846	7037	36841	80724	1.7%	1425	45498	7022	17641	70161	2.0%	-
Lynnfield	I	230	8300	998	2177	11475	2.0%	174	6504	712	1490	8706	2.0%	-
Malden	B	2364	23536	6770	20059	50365	4.7%	1999	26118	3574	10665	40357	5.0%	-
Manchester	I	90	4988	640	786	6414	1.4%	68	3923	411	571	4905	1.4%	+
Marblehead	H	414	16062	4800	2739	23601	1.8%	366	13420	3257	2033	18710	2.0%	-
Marshfield	D	382	12641	3347	5321	21309	1.8%	216	12475	1818	3067	17360	1.2%	+
Medfield	E	192	6512	1252	2835	10599	1.8%	130	5914	762	1730	8406	1.6%	+
Medford	B	2782	27848	6065	16301	50214	5.5%	2489	30398	3932	7931	42261	5.9%	-
Melrose	H	702	15919	2354	8670	26943	2.6%	635	15376	2332	5268	22976	2.8%	-
Middleton	I	86	2955	274	683	3912	2.2%	61	2233	491	341	3065	2.0%	+
Millis	E	144	3691	384	1750	5825	2.5%	82	4039	443	974	5456	1.5%	+
Milton	B	1059	16307	3453	3898	23658	4.5%	960	15100	1952	1808	18860	5.1%	-
M. Reading	G	229	7701	1290	3025	12016	1.9%	195	6367	628	1897	8892	2.2%	-
Mahant	H	116	2718	439	533	3690	3.1%	103	2073	300	298	2671	3.9%	-
Matick	F	543	20692	1974	6655	29321	1.9%	461	18641	2215	3671	24527	1.9%	-
Needham	F	532	23007	16641	4407	44055	1.2%	472	18711	8510	2850	30071	1.6%	-
Newton	B	3470	79877	11532	13708	105117	3.3%	3016	68353	9108	9206	86667	3.5%	-
Norfolk	E	112	3472	433	1171	5076	2.2%	64	2636	505	691	3832	1.7%	+
Norwell	D	191	7550	1083	2557	11190	1.7%	129	6063	697	2051	8811	1.5%	+
Norwood	E	642	17170	23803	6288	47261	1.4%	512	15173	12835	3736	31744	1.6%	-
Peabody	I	816	25505	11599	13595	50699	1.6%	723	24809	7333	6997	39139	1.8%	-

		1987	1985	1985	1985	1985	T % of	1981	1979	1979	1979	1979	T % of
		Assess	Levy	Rec'ts	Aid	LocTot	LocTot	Assess	Levy	Rec'ts	Aid	LocTot	LocTot
Pembroke	D	268	6223	1116	2681	10020	2.7%	179	6550	1381	1757	9688	1.9% +
Quincy	C	2730	47068	10778	29549	87395	3.1%	2410	55208	35218	11148	101574	2.4% +
Randolph	C	672	14770	2866	8775	26411	2.5%	528	13803	2696	4953	21452	2.5% +
Reading	G	506	15064	4559	4952	24575	2.1%	397	13215	2945	3026	19186	2.1% -
Revere	B	2220	19178	3660	17533	40391	5.5%	1871	25299	3122	6549	34970	5.4% +
Rockland	D	260	6617	1707	6387	14711	1.8%	221	6822	629	3611	11062	2.0% -
Salem	H	677	23446	4195	10633	38274	1.8%	609	24480	7585	5078	37143	1.6% +
Saugus	H	584	15580	2392	5718	23690	2.5%	546	14246	1722	3166	19134	2.9% -
Scituate	D	304	12567	2025	4450	19042	1.6%	236	11874	1549	2814	16237	1.5% +
Sharon	E	305	9335	1675	3626	14636	2.1%	224	8569	1143	2020	11732	1.9% +
Sherborn	F	84	4241	436	547	5224	1.6%	52	3539	312	309	4160	1.3% +
Somerville	B	3563	29412	6636	37684	73732	4.8%	3440	37348	3795	15410	56553	6.1% -
Stoneham	G	405	13715	2819	5106	21640	1.9%	346	12399	1589	2211	16199	2.1% -
Sudbury	F	263	13378	1090	3003	17471	1.5%	200	10578	1307	1807	13692	1.5% +
Swampscott	H	352	10614	1319	2539	14472	2.4%	280	10078	1096	1398	12572	2.2% +
Topsfield	I	110	3492	637	977	5106	2.1%	79	2882	878	601	4361	1.8% +
Wakefield	H	546	16981	2127	5038	24146	2.3%	453	14810	1794	4178	20782	2.2% +
Walpole	E	365	12039	1484	4655	18178	2.0%	271	10569	1253	2830	14652	1.9% +
Waltham	F	972	36375	8055	12419	56849	1.7%	877	34471	6266	5924	46661	1.9% -
Watertown	B	1533	22716	3450	8897	35063	4.4%	1336	22425	2675	2997	28097	4.8% -
Wayland	F	259	12066	1274	2930	16270	1.6%	209	9940	780	2103	12823	1.6% -
Wellesley	F	440	24392	3212	4780	32384	1.4%	406	19964	3007	2849	25820	1.6% -
Wenham	I	64	2168	350	459	2977	2.2%	58	1800	402	80	2282	2.5% -
Weston	F	211	12531	2054	2377	16962	1.2%	163	10029	1234	1653	12916	1.3% -
Westwood	E	307	13398	1399	2447	17244	1.8%	234	10364	1040	1754	13158	1.8% +
Weymouth	C	1230	25145	5458	17019	47622	2.6%	1015	31293	3871	9207	44371	2.3% +
Wilmington	G	317	13712	2177	4324	20213	1.6%	245	12123	1027	2727	15877	1.5% +
Winchester	G	451	18464	2983	3984	25431	1.8%	387	15382	1849	2389	19620	2.0% -
Winthrop	H	466	6487	2288	6261	15036	3.1%	449	6978	1352	3594	11924	3.8% -
Woburn	G	737	21988	2903	8303	33194	2.2%	629	23199	2274	4766	30239	2.1% +

SUMMARY

Boston	A	44,004	363,222	267,402	354,242	984,866	4.5%	38,956	436,253	121,518	203,574	761,345	5.1% -
Inner	B	32,401	425,354	113,891	201,559	740,804	4.4%	29,141	425,711	71,615	86,954	584,280	5.0% -
So Sh In	C	6,457	144,399	26,475	77,247	248,121	2.6%	5,396	154,861	46,602	36,835	238,298	2.3% +
So Sh Out	D	1,796	63,226	11,921	27,922	103,069	1.7%	1,228	59,078	7,899	17,353	84,330	1.5% +
Southwest	E	3,019	94,454	34,181	32,032	160,667	1.9%	2,261	84,055	21,179	18,897	124,131	1.8% +
West	F	4,661	201,160	44,315	52,412	297,887	1.6%	3,882	173,679	30,899	31,171	235,749	1.6% -
Northwest	G	4,604	176,037	28,107	47,690	251,834	1.8%	3,719	152,015	18,488	28,339	198,842	1.9% -
No Sh In	H	5,241	144,653	26,951	78,972	250,576	2.1%	4,866	146,959	26,460	42,654	216,073	2.3% -
No Sh Out	I	2,677	92,663	51,052	32,221	175,936	1.5%	2,244	81,226	29,433	17,285	127,944	1.8% -

MBTA District 104,862 1,705,168 604,295 904,297 3,213,760 3.3% 91,693 1,713,837 374,093 483,062 2,570,992 3.6% -

APPENDIX D

Percentage Breakdown of Regional Data by Town and Sub-Region

Town/Sub-Region 1987 Assessment				Total Retail Sales - 1982		Total Personal Income - 1981	
Boston	A	44004276	42.0%	2771361	18.5%	3690426	17.3%
Arlington	B	2288791	2.2%	162082	1.1%	428667	2.0%
Belmont	B	1173236	1.1%	70486	0.5%	289893	1.4%
Brookline	B	3923317	3.7%	215964	1.4%	633433	3.0%
Cambridge	B	5462472	5.2%	624071	4.2%	758477	3.6%
Chelsea	B	1015489	1.0%	137297	0.9%	137048	0.6%
Everett	B	1546628	1.5%	80554	0.5%	242511	1.1%
Malden	B	2363710	2.3%	200585	1.3%	382511	1.8%
Medford	B	2782129	2.7%	287289	1.9%	414082	1.9%
Milton	B	1059314	1.0%	27778	0.2%	249290	1.2%
Newton	B	3470005	3.3%	598975	4.0%	970768	4.6%
Revere	B	2219844	2.1%	195116	1.3%	282537	1.3%
Somerville	B	3563396	3.4%	274752	1.8%	491235	2.3%
Watertown	B	1532812	1.5%	189896	1.3%	281261	1.3%
Braintree	C	828145	0.8%	482530	3.2%	289533	1.4%
Cohasset	C	126478	0.1%			91433	0.4%
Hingham	C	436771	0.4%	137467	0.9%	202353	0.9%
Holbrook	C	273171	0.3%	41129	0.3%	75941	0.4%
Hull	C	160380	0.2%			60907	0.3%
Quincy	C	2730137	2.6%	434002	2.9%	648453	3.0%
Randolph	C	672358	0.6%	101682	0.7%	218182	1.0%
Weymouth	C	1229814	1.2%	243728	1.6%	420177	2.0%
Duxbury	D	197996	0.2%	20093	0.1%	119274	0.6%
Hanover	D	194461	0.2%	169619	1.1%	85957	0.4%
Marshfield	D	381591	0.4%	72817	0.5%	166512	0.8%
Norwell	D	190504	0.2%			88120	0.4%
Pembroke	D	268034	0.3%	61283	0.4%	88515	0.4%
Rockland	D	259832	0.2%	56701	0.4%	92726	0.4%
Scituate	D	304076	0.3%	42557	0.3%	158070	0.7%
Canton	E	357984	0.3%	115271	0.8%	160293	0.8%
Dedham	E	593959	0.6%	255056	1.7%	213869	1.0%
Medfield	E	192044	0.2%	32037	0.2%	99645	0.5%
Millis	E	144140	0.1%			56079	0.3%
Norfolk	E	112351	0.1%			46883	0.2%
Norwood	E	641754	0.6%	298584	2.0%	248622	1.2%
Sharon	E	305252	0.3%	32720	0.2%	140757	0.7%
Walpole	E	364611	0.3%	108412	0.7%	155191	0.7%
Westwood	E	307388	0.3%	48723	0.3%	144394	0.7%
Ashland	F	230083	0.2%			80432	0.4%
Dover	F	96478	0.1%			73386	0.3%
Framingham	F	1029543	1.0%	512129	3.4%	594937	2.8%
Natick	F	543044	0.5%	369562	2.5%	263617	1.2%
Needham	F	532236	0.5%	178679	1.2%	323094	1.5%
Sherborn	F	83782	0.1%			54556	0.3%
Sudbury	F	263142	0.3%	55513	0.4%	169208	0.8%
Waltham	F	972102	0.9%	342016	2.3%	446161	2.1%
Wayland	F	259336	0.2%	52820	0.4%	160230	0.8%

APPENDIX D

Percentage Breakdown of Regional Data by Town and Sub-Region

Town/Sub-Region 1987 Assessment				Total Retail Sales - 1982		Total Personal Income - 1981	
Wellesley	F	440316	0.4%	220934	1.5%	340602	1.6%
Weston	F	211403	0.2%	18140	0.1%	199367	0.9%
Bedford	G	248373	0.2%	68771	0.5%	119354	0.6%
Burlington	G	611276	0.6%	415871	2.8%	197306	0.9%
Concord	G	276775	0.3%	87073	0.6%	198384	0.9%
Lexington	G	672541	0.6%	126770	0.8%	357610	1.7%
Lincoln	G	150817	0.1%			92097	0.4%
N. Reading	G	228554	0.2%	67590	0.5%	92602	0.4%
Reading	G	506499	0.5%	87293	0.6%	199680	0.9%
Stoneham	G	404730	0.4%	110409	0.7%	173063	0.8%
Wilmington	G	316692	0.3%	135651	0.9%	123031	0.6%
Winchester	G	451218	0.4%	38467	0.3%	233756	1.1%
Woburn	G	736673	0.7%	280225	1.9%	276966	1.3%
Lynn	H	1385005	1.3%	411235	2.7%	509041	2.4%
Marblehead	H	414066	0.4%	61738	0.4%	233844	1.1%
Melrose	H	702074	0.7%	71132	0.5%	249276	1.2%
Nahant	H	115878	0.1%			40879	0.2%
Salem	H	676669	0.6%	273895	1.8%	268992	1.3%
Saugus	H	583623	0.6%	317289	2.1%	182205	0.9%
Swampscott	H	351709	0.3%	72924	0.5%	143434	0.7%
Wakefield	H	545777	0.5%	113620	0.8%	207923	1.0%
Winthrop	H	466125	0.4%	32828	0.2%	153079	0.7%
Beverly	I	687125	0.7%	185759	1.2%	304177	1.4%
Danvers	I	451394	0.4%	403932	2.7%	193981	0.9%
Hamilton	I	142686	0.1%			65528	0.3%
Lynnfield	I	229690	0.2%	44208	0.3%	131125	0.6%
Manchester	I	90499	0.1%			65262	0.3%
Middleton	I	86219	0.1%			32865	0.2%
Peabody	I	815553	0.8%	319840	2.1%	355303	1.7%
Topsfield	I	109502	0.1%			61275	0.3%
Wenham	I	64368	0.1%			43128	0.2%

APPENDIX E

Methodology and Assumptions for Yield Calculations (Based on FY86, except where noted)

Sales Tax

5% tax on alcoholic beverages is applied to statewide liquor store sales of approximately \$850 million (from 1982 Census of Retail Trade) to yield \$40 million.

50% increase in current alcohol excise is applied to statewide tax revenues of \$80 million to yield \$40 million.

Current 26¢/pack cigarette tax generates \$173 million statewide, or \$6.6 million/1¢. A 5¢ increase would yield about \$30 million.

Calculations for sales tax in District based on town populations and LOTREM (Local Option Tax Revenue Estimation Model) by State Tax Reform Commission (which provided town-by-town revenue per capita) based on FY86 data. Individual town revenues are shown in Appendix F.

Statewide revenue from 1% tax is estimated in "Local Non-Property Taxation," by State Tax Reform Commission.

Auto-Use Taxes

Current 11¢ motor fuel tax yields \$290 million or about \$25 million/1¢. 2¢ increase = \$50 million, 5¢ = 125m. 48% of state gas sales are in region (1982 Census), 5¢ = \$60m.

Parking tax estimates indicate \$15 million revenues from a tax of 15% to 20% on commercial parking. In the City of Boston there are roughly 35,000 commercial spaces and 55,000 total off-street spaces (based on CTPS figures). Applying ratio of all spaces to commercial spaces gives a yield of about \$25 million.

Turnpike volumes show 90 million vehicles exiting at Exits 12-20 (Framingham-Boston, exits in MBTA District). Sumner Tunnel and Tobin Bridge have inbound volumes of roughly 15 million each. Total volume of 120 million vehicles x 20¢ = \$25 million.

Payroll/Income Tax

Approximately 1.5 million employed in District in 1985 (state labor statistics), @ \$2/month and 12 months/year yields roughly \$35 million.

Payroll and income tax estimates based on LOTREM (town-by-town breakdowns in Appendix F). For 2%/1.5%/1%, apply appropriate percentage to each town based on its service.

APPENDIX F

Town-by-town Breakdown of Revenue from 1% Tax

Region		Sales Tax	% of Tot.	Payroll Tax	% of Tot.	Income Tax*	% of Tot.
Arlington	B	\$2,273	1.4%	\$1,551	0.4%	\$7,375	1.9%
Ashland	F	\$326	0.2%	\$743	0.2%	\$1,681	0.4%
Bedford	G	\$661	0.4%	\$7,093	2.1%	\$2,420	0.6%
Belmont	B	\$694	0.4%	\$1,327	0.4%	\$5,947	1.5%
Beverly	I	\$1,966	1.2%	\$2,598	0.8%	\$5,242	1.4%
Boston	A	\$30,996	19.3%	\$129,011	37.4%	\$56,570	14.7%
Braintree	C	\$5,636	3.5%	\$5,610	1.6%	\$5,060	1.3%
Brookline	B	\$2,478	1.5%	\$3,176	0.9%	\$12,023	3.1%
Burlington	G	\$4,759	3.0%	\$9,343	2.7%	\$3,605	0.9%
Cambridge	B	\$6,826	4.3%	\$22,842	6.6%	\$12,473	3.2%
Canton	E	\$1,098	0.7%	\$3,261	0.9%	\$3,097	0.8%
Chelsea	B	\$1,246	0.8%	\$1,922	0.6%	\$1,805	0.5%
Cohasset	C	\$512	0.3%	\$353	0.1%	\$2,170	0.6%
Concord	G	\$891	0.6%	\$2,786	0.8%	\$4,812	1.3%
Danvers	I	\$5,106	3.2%	\$3,342	1.0%	\$3,525	0.9%
Dedham	E	\$3,272	2.0%	\$2,469	0.7%	\$3,909	1.0%
Dover	F	\$51	.0%	\$120	.0%	\$2,012	0.5%
Duxbury	D	\$272	0.2%	\$284	0.1%	\$2,679	0.7%
Everett	B	\$867	0.5%	\$3,362	1.0%	\$3,462	0.9%
Framingham	F	\$6,536	4.1%	\$11,122	3.2%	\$10,804	2.8%
Hamilton	I	\$108	0.1%	\$307	0.1%	\$1,281	0.3%
Hanover	D	\$1,868	1.2%	\$792	0.2%	\$1,608	0.4%
Hingham	C	\$1,522	0.9%	\$1,622	0.5%	\$4,392	1.1%
Holbrook	C	\$261	0.2%	\$418	0.1%	\$1,149	0.3%
Hull	C	\$323	0.2%	\$200	0.1%	\$918	0.2%
Lexington	G	\$1,414	0.9%	\$4,836	1.4%	\$7,983	2.1%
Lincoln	G	\$81	0.1%	\$235	0.1%	\$2,415	0.6%
Lynn	H	\$5,624	3.5%	\$8,720	2.5%	\$7,437	1.9%
Lynnfield	I	\$576	0.4%	\$674	0.2%	\$2,990	0.8%
Malden	B	\$1,601	1.0%	\$3,494	1.0%	\$6,141	1.6%
Manchester	I	\$191	0.1%	\$189	0.1%	\$1,434	0.4%
Marblehead	H	\$718	0.4%	\$773	0.2%	\$4,715	1.2%
Marshfield	D	\$796	0.5%	\$549	0.2%	\$3,062	0.8%
Medfield	E	\$233	0.1%	\$778	0.2%	\$2,235	0.6%
Medford	B	\$3,020	1.9%	\$3,032	0.9%	\$6,659	1.7%
Melrose	H	\$650	0.4%	\$1,123	0.3%	\$4,293	1.1%
Middleton	I	\$129	0.1%	\$656	0.2%	\$612	0.2%
Millis	E	\$159	0.1%	\$282	0.1%	\$1,008	0.3%
Milton	B	\$272	0.2%	\$914	0.3%	\$5,019	1.3%
N. Reading	G	\$749	0.5%	\$565	0.2%	\$1,752	0.5%
Nahant	H	\$48	.0%	\$52	.0%	\$768	0.2%
Natick	F	\$4,272	2.7%	\$3,562	1.0%	\$5,154	1.3%
Needham	F	\$1,951	1.2%	\$5,126	1.5%	\$6,911	1.8%
Newton	B	\$6,308	3.9%	\$9,651	2.8%	\$21,270	5.5%
Norfolk	E	\$108	0.1%	\$336	0.1%	\$1,029	0.3%
Norwell	D	\$733	0.5%	\$624	0.2%	\$1,795	0.5%
Norwood	E	\$4,204	2.6%	\$5,144	1.5%	\$4,179	1.1%
Peabody	I	\$3,262	2.0%	\$2,803	0.8%	\$5,928	1.5%
Pembroke	D	\$579	0.4%	\$331	0.1%	\$1,413	0.4%

APPENDIX F

Town-by-town Breakdown of Revenue from 1% Tax

Region		Sales Tax	% of Tot.	Payroll Tax	% of Tot.	Income Tax*	% of Tot.
Quincy	C	\$4,358	2.7%	\$7,849	2.3%	\$10,000	2.6%
Randolph	C	\$1,060	0.7%	\$1,872	0.5%	\$3,686	1.0%
Reading	G	\$597	0.4%	\$1,152	0.3%	\$3,729	1.0%
Revere	B	\$1,732	1.1%	\$1,025	0.3%	\$4,108	1.1%
Rockland	D	\$579	0.4%	\$957	0.3%	\$1,338	0.3%
Salem	H	\$2,940	1.8%	\$3,844	1.1%	\$4,186	1.1%
Saugus	H	\$3,987	2.5%	\$1,233	0.4%	\$3,015	0.8%
Scituate	D	\$487	0.3%	\$481	0.1%	\$3,080	0.8%
Sharon	E	\$272	0.2%	\$682	0.2%	\$3,061	0.8%
Sherborn	F	\$60	.0%	\$78	.0%	\$1,597	0.4%
Somerville	B	\$3,089	1.9%	\$3,366	1.0%	\$7,116	1.9%
Stoneham	G	\$854	0.5%	\$1,205	0.3%	\$3,258	0.8%
Sudbury	F	\$536	0.3%	\$2,364	0.7%	\$4,318	1.1%
Swampscott	H	\$598	0.4%	\$444	0.1%	\$2,712	0.7%
Topsfield	I	\$203	0.1%	\$302	0.1%	\$1,337	0.3%
Wakefield	H	\$1,560	1.0%	\$2,754	0.8%	\$3,710	1.0%
Walpole	E	\$968	0.6%	\$1,539	0.4%	\$2,883	0.7%
Waltham	F	\$4,009	2.5%	\$14,793	4.3%	\$7,346	1.9%
Watertown	B	\$2,263	1.4%	\$4,131	1.2%	\$4,688	1.2%
Wayland	F	\$457	0.3%	\$651	0.2%	\$3,895	1.0%
Wellesley	F	\$2,718	1.7%	\$4,459	1.3%	\$8,232	2.1%
Wenham	I	\$51	.0%	\$89	.0%	\$1,064	0.3%
Weston	F	\$121	0.1%	\$801	0.2%	\$5,570	1.4%
Westwood	E	\$447	0.3%	\$1,590	0.5%	\$3,148	0.8%
Weymouth	C	\$2,904	1.8%	\$2,301	0.7%	\$6,767	1.8%
Wilmington	G	\$1,084	0.7%	\$5,952	1.7%	\$2,105	0.5%
Winchester	G	\$400	0.2%	\$1,118	0.3%	\$5,119	1.3%
Winthrop	H	\$373	0.2%	\$450	0.1%	\$2,506	0.7%
Woburn	G	\$3,537	2.2%	\$7,200	2.1%	\$4,655	1.2%

SUMMARY

A Boston	\$30,996	19%	\$129,011	37%	\$56,570	15%
B Inner	\$32,669	20%	\$59,794	17%	\$98,087	26%
C So Shore In	\$16,577	10%	\$20,226	6%	\$34,140	9%
D So Shore Out	\$5,314	3%	\$4,017	1%	\$14,976	4%
E Southwest	\$10,761	7%	\$16,080	5%	\$24,550	6%
F West	\$21,038	13%	\$43,819	13%	\$57,520	15%
G Northwest	\$15,028	9%	\$41,485	12%	\$41,853	11%
H No Shore In	\$16,498	10%	\$19,392	6%	\$33,343	9%
I No Shore Out	\$11,592	7%	\$10,962	3%	\$23,413	6%
MBTA District	\$160,473		\$344,786		\$384,451	

Dollar values in thousands based on LOTREM for FY86

* Income tax represents 1% tax on earned income and 2% tax on unearned.

APPENDIX G

BREAKDOWN OF LOCAL GAS TAX REVENUES VS. CHANGE IN ASSESSMENT -- BASE=1987 ASSESSMENT

(No Fare Increase)

	Approx Revenue From \$.05 Tax	Increase in Assessment @8% Annual Cost Inc. & 50/50 Split (above basic 2.5 % annual inc.in local assessment)				Local Surplus (Deficit) After 4 Years
		YEAR 1	YEAR 2	YEAR 3	YEAR 4	
Arlington	\$675,000	\$670,000	\$852,000	\$1,053,000	\$1,273,000	(\$598,000)
Ashland	MA	\$67,000	\$86,000	\$106,000	\$128,000	MA
Bedford	\$372,000	\$73,000	\$92,000	\$114,000	\$138,000	\$234,000
Belmont	\$722,000	\$343,000	\$437,000	\$540,000	\$652,000	\$70,000
Beverly	\$964,000	\$201,000	\$256,000	\$316,000	\$382,000	\$582,000
Boston	\$7,923,000	\$12,876,000	\$16,386,000	\$20,240,000	\$24,466,000	(\$16,543,000)
Braintree	\$1,667,000	\$242,000	\$308,000	\$381,000	\$460,000	\$1,207,000
Brookline	\$714,000	\$1,148,000	\$1,461,000	\$1,805,000	\$2,181,000	(\$1,467,000)
Burlington	\$941,000	\$179,000	\$228,000	\$281,000	\$340,000	\$601,000
Cambridge	\$2,286,000	\$1,598,000	\$2,034,000	\$2,513,000	\$3,037,000	(\$751,000)
Canton	\$553,000	\$105,000	\$133,000	\$165,000	\$199,000	\$354,000
Chelsea	\$351,000	\$297,000	\$378,000	\$467,000	\$565,000	(\$214,000)
Cohasset	MA	\$37,000	\$47,000	\$58,000	\$70,000	MA
Concord	\$421,000	\$81,000	\$103,000	\$127,000	\$154,000	\$267,000
Danvers	\$954,000	\$132,000	\$168,000	\$208,000	\$251,000	\$703,000
Dedham	\$599,000	\$174,000	\$221,000	\$273,000	\$330,000	\$269,000
Dover	MA	\$28,000	\$36,000	\$44,000	\$54,000	MA
Duxbury	MA	\$58,000	\$74,000	\$91,000	\$110,000	MA
Everett	\$668,000	\$453,000	\$576,000	\$711,000	\$860,000	(\$192,000)
Framingham	\$2,098,000	\$301,000	\$383,000	\$474,000	\$572,000	\$1,526,000
Hamilton	MA	\$42,000	\$53,000	\$66,000	\$79,000	MA
Hanover	\$494,000	\$57,000	\$72,000	\$89,000	\$108,000	\$386,000
Hingham	\$719,000	\$128,000	\$163,000	\$201,000	\$243,000	\$476,000
Holbrook	\$245,000	\$80,000	\$102,000	\$126,000	\$152,000	\$93,000
Hull	MA	\$47,000	\$60,000	\$74,000	\$89,000	MA
Lexington	\$802,000	\$197,000	\$250,000	\$309,000	\$374,000	\$428,000
Lincoln	MA	\$44,000	\$56,000	\$69,000	\$84,000	MA
Lynn	\$1,893,000	\$405,000	\$516,000	\$637,000	\$770,000	\$1,123,000
Lynnfield	\$263,000	\$67,000	\$86,000	\$106,000	\$128,000	\$135,000
Malden	\$720,000	\$692,000	\$880,000	\$1,087,000	\$1,314,000	(\$594,000)
Manchester	MA	\$26,000	\$34,000	\$42,000	\$50,000	MA
Marblehead	\$174,000	\$121,000	\$154,000	\$190,000	\$230,000	(\$56,000)
Marshfield	\$330,000	\$112,000	\$142,000	\$176,000	\$212,000	\$118,000
Medfield	\$440,000	\$56,000	\$72,000	\$88,000	\$107,000	\$333,000
Medford	\$1,115,000	\$814,000	\$1,036,000	\$1,280,000	\$1,547,000	(\$432,000)
Melrose	\$358,000	\$205,000	\$261,000	\$323,000	\$390,000	(\$32,000)
Middleton	MA	\$25,000	\$32,000	\$40,000	\$48,000	MA
Millis	MA	\$42,000	\$54,000	\$66,000	\$80,000	MA
Milton	\$239,000	\$310,000	\$394,000	\$487,000	\$589,000	(\$350,000)
M. Reading	\$374,000	\$67,000	\$85,000	\$105,000	\$127,000	\$247,000
Nahant	MA	\$34,000	\$43,000	\$53,000	\$64,000	MA
Natick	\$898,000	\$159,000	\$202,000	\$250,000	\$302,000	\$596,000
Needham	\$600,000	\$156,000	\$198,000	\$245,000	\$296,000	\$304,000
Newton	\$2,043,000	\$1,015,000	\$1,292,000	\$1,596,000	\$1,929,000	\$114,000

APPENDIX G

BREAKDOWN OF LOCAL GAS TAX REVENUES VS. CHANGE IN ASSESSMENT -- BASE=1987 ASSESSMENT

(No Fare Increase)

Approx Revenue From \$.05 Tax		Increase in Assessment 08% Annual Cost Inc. & 50/50 Split (above basic 2.5 % annual inc.in local assessment)				Local Surplus (Deficit) After 4 Years
		YEAR 1	YEAR 2	YEAR 3	YEAR 4	
Morfolk	NA	\$33,000	\$42,000	\$52,000	\$62,000	NA
Morwell	NA	\$56,000	\$71,000	\$88,000	\$106,000	NA
Morwood	\$948,000	\$188,000	\$239,000	\$295,000	\$357,000	\$591,000
Peabody	\$1,767,000	\$239,000	\$304,000	\$375,000	\$453,000	\$1,314,000
Pembroke	\$553,000	\$78,000	\$100,000	\$123,000	\$149,000	\$404,000
Quincy	\$2,805,000	\$799,000	\$1,017,000	\$1,256,000	\$1,518,000	\$1,287,000
Randolph	\$767,000	\$197,000	\$250,000	\$309,000	\$374,000	\$393,000
Reading	\$884,000	\$148,000	\$189,000	\$233,000	\$282,000	\$602,000
Revere	\$949,000	\$650,000	\$827,000	\$1,021,000	\$1,234,000	(\$285,000)
Rockland	\$240,000	\$76,000	\$97,000	\$120,000	\$144,000	\$96,000
Salem	\$761,000	\$198,000	\$252,000	\$311,000	\$376,000	\$385,000
Saugus	\$1,190,000	\$171,000	\$217,000	\$268,000	\$324,000	\$866,000
Scituate	\$113,000	\$89,000	\$113,000	\$140,000	\$169,000	(\$56,000)
Sharon	\$223,000	\$89,000	\$114,000	\$140,000	\$170,000	\$53,000
Sherborn	NA	\$25,000	\$31,000	\$39,000	\$47,000	NA
Somerville	\$1,235,000	\$1,043,000	\$1,327,000	\$1,639,000	\$1,981,000	(\$746,000)
Stoneham	\$722,000	\$118,000	\$151,000	\$186,000	\$225,000	\$497,000
Sudbury	\$358,000	\$77,000	\$98,000	\$121,000	\$146,000	\$212,000
Swampscott	\$534,000	\$103,000	\$131,000	\$162,000	\$196,000	\$338,000
Topsfield	NA	\$32,000	\$41,000	\$50,000	\$61,000	NA
Wakefield	\$615,000	\$160,000	\$203,000	\$251,000	\$303,000	\$312,000
Walpole	\$662,000	\$107,000	\$136,000	\$168,000	\$203,000	\$459,000
Waltham	\$2,062,000	\$284,000	\$362,000	\$447,000	\$540,000	\$1,522,000
Watertown	\$1,061,000	\$449,000	\$571,000	\$705,000	\$852,000	\$209,000
Wayland	\$545,000	\$76,000	\$97,000	\$119,000	\$144,000	\$401,000
Wellesley	\$694,000	\$129,000	\$164,000	\$203,000	\$245,000	\$449,000
Wenham	NA	\$19,000	\$24,000	\$30,000	\$36,000	NA
Weston	\$111,000	\$62,000	\$79,000	\$97,000	\$118,000	(\$7,000)
Westwood	\$327,000	\$90,000	\$114,000	\$141,000	\$171,000	\$156,000
Weymouth	\$1,254,000	\$360,000	\$458,000	\$566,000	\$684,000	\$570,000
Wilmington	\$556,000	\$93,000	\$118,000	\$146,000	\$176,000	\$380,000
Winchester	\$147,000	\$132,000	\$168,000	\$208,000	\$251,000	(\$104,000)
Winthrop	\$265,000	\$136,000	\$174,000	\$214,000	\$259,000	\$6,000
Woburn	\$1,435,000	\$216,000	\$274,000	\$339,000	\$410,000	\$1,025,000
TOTAL	\$57,394,000	\$30,683,000	\$39,049,000	\$48,232,000	\$58,302,000	

APPENDIX H

BREAKDOWN OF LOCAL GAS TAX REVENUES VS. CHANGE IN ASSESSMENT -- BASE=1987 ASSESSMENT

(Fare Increases to Reach 40% Operating Ratio by Year 3)

	Approx Revenue From \$.05 Tax	Increase in Assessment @8% Annual Cost Inc. & 50/50 Split (above basic 2.5 % annual inc.in local assessment)				Local Surplus (Deficit) After 4 Years
		YEAR 1	YEAR 2	YEAR 3	YEAR 4	
Norfolk	NA	\$12,000	\$17,000	\$18,000	\$38,000	NA
Norwell	NA	\$20,000	\$29,000	\$31,000	\$64,000	NA
Norwood	\$948,000	\$69,000	\$97,000	\$104,000	\$216,000	\$732,000
Peabody	\$1,767,000	\$88,000	\$124,000	\$132,000	\$275,000	\$1,492,000
Pembroke	\$553,000	\$29,000	\$41,000	\$43,000	\$90,000	\$463,000
Quincy	\$2,805,000	\$293,000	\$414,000	\$442,000	\$921,000	\$1,884,000
Randolph	\$767,000	\$72,000	\$102,000	\$109,000	\$227,000	\$540,000
Reading	\$884,000	\$54,000	\$77,000	\$82,000	\$171,000	\$713,000
Revere	\$949,000	\$238,000	\$336,000	\$359,000	\$749,000	\$200,000
Rockland	\$240,000	\$28,000	\$39,000	\$42,000	\$88,000	\$152,000
Salem	\$761,000	\$73,000	\$103,000	\$110,000	\$228,000	\$533,000
Saugus	\$1,190,000	\$63,000	\$88,000	\$94,000	\$197,000	\$993,000
Scituate	\$113,000	\$33,000	\$46,000	\$49,000	\$103,000	\$10,000
Sharon	\$223,000	\$33,000	\$46,000	\$49,000	\$103,000	\$120,000
Sherborn	NA	\$9,000	\$13,000	\$14,000	\$28,000	NA
Somerville	\$1,235,000	\$383,000	\$540,000	\$577,000	\$1,202,000	\$33,000
Stoneham	\$722,000	\$43,000	\$61,000	\$66,000	\$136,000	\$586,000
Sudbury	\$358,000	\$28,000	\$40,000	\$43,000	\$89,000	\$269,000
Swampscott	\$534,000	\$38,000	\$53,000	\$57,000	\$119,000	\$415,000
Topsfield	NA	\$12,000	\$17,000	\$18,000	\$37,000	NA
Wakefield	\$615,000	\$59,000	\$83,000	\$88,000	\$184,000	\$431,000
Walpole	\$662,000	\$39,000	\$55,000	\$59,000	\$123,000	\$539,000
Waltham	\$2,062,000	\$104,000	\$147,000	\$157,000	\$328,000	\$1,734,000
Watertown	\$1,061,000	\$165,000	\$232,000	\$248,000	\$517,000	\$544,000
Wayland	\$545,000	\$28,000	\$39,000	\$42,000	\$87,000	\$458,000
Wellesley	\$694,000	\$47,000	\$67,000	\$71,000	\$148,000	\$546,000
Wenham	NA	\$7,000	\$10,000	\$10,000	\$22,000	NA
Weston	\$111,000	\$23,000	\$32,000	\$34,000	\$71,000	\$40,000
Westwood	\$327,000	\$33,000	\$47,000	\$50,000	\$104,000	\$223,000
Weymouth	\$1,254,000	\$132,000	\$186,000	\$199,000	\$415,000	\$839,000
Wilmington	\$556,000	\$34,000	\$48,000	\$51,000	\$107,000	\$449,000
Winchester	\$147,000	\$48,000	\$68,000	\$73,000	\$152,000	(\$5,000)
Winthrop	\$265,000	\$50,000	\$71,000	\$75,000	\$157,000	\$108,000
Woburn	\$1,435,000	\$79,000	\$112,000	\$119,000	\$248,000	\$1,187,000
TOTAL	\$57,394,000 (EXCL NA)	\$11,257,000	\$15,889,000	\$16,974,000	\$35,361,000	

APPENDIX H

BREAKDOWN OF LOCAL GAS TAX REVENUES VS. CHANGE IN ASSESSMENT -- BASE=1987 ASSESSMENT

(Fare Increases to Reach 40% Operating Ratio by Year 3)

	Approx Revenue From \$.05 Tax	Increase in Assessment @8% Annual Cost Inc. & 50/50 Split (above basic 2.5 % annual inc.in local assessment)				Local Surplus (Deficit) After 4 Years
		YEAR 1	YEAR 2	YEAR 3	YEAR 4	
Arlington	\$675,000	\$246,000	\$347,000	\$370,000	\$772,000	(\$97,000)
Ashland	NA	\$25,000	\$35,000	\$37,000	\$78,000	NA
Bedford	\$372,000	\$27,000	\$38,000	\$40,000	\$84,000	\$288,000
Belmont	\$722,000	\$126,000	\$178,000	\$190,000	\$396,000	\$326,000
Beverly	\$964,000	\$74,000	\$104,000	\$111,000	\$232,000	\$732,000
Boston	\$7,923,000	\$4,724,000	\$6,668,000	\$7,123,000	\$14,839,000	(\$6,916,000)
Braintree	\$1,667,000	\$89,000	\$125,000	\$134,000	\$279,000	\$1,388,000
Brookline	\$714,000	\$421,000	\$594,000	\$635,000	\$1,323,000	(\$609,000)
Burlington	\$941,000	\$66,000	\$93,000	\$99,000	\$206,000	\$735,000
Cambridge	\$2,286,000	\$586,000	\$828,000	\$884,000	\$1,842,000	\$444,000
Canton	\$553,000	\$38,000	\$54,000	\$58,000	\$121,000	\$432,000
Chelsea	\$351,000	\$109,000	\$154,000	\$164,000	\$342,000	\$9,000
Cohasset	NA	\$14,000	\$19,000	\$20,000	\$43,000	NA
Concord	\$421,000	\$30,000	\$42,000	\$45,000	\$93,000	\$328,000
Danvers	\$954,000	\$48,000	\$68,000	\$73,000	\$152,000	\$802,000
Dedham	\$599,000	\$64,000	\$90,000	\$96,000	\$200,000	\$399,000
Dover	NA	\$10,000	\$15,000	\$16,000	\$33,000	NA
Duxbury	NA	\$21,000	\$30,000	\$32,000	\$67,000	NA
Everett	\$668,000	\$166,000	\$234,000	\$250,000	\$522,000	\$146,000
Framingham	\$2,098,000	\$111,000	\$156,000	\$167,000	\$347,000	\$1,751,000
Hamilton	NA	\$15,000	\$22,000	\$23,000	\$48,000	NA
Hanover	\$494,000	\$21,000	\$29,000	\$31,000	\$66,000	\$428,000
Hingham	\$719,000	\$47,000	\$66,000	\$71,000	\$147,000	\$572,000
Holbrook	\$245,000	\$29,000	\$41,000	\$44,000	\$92,000	\$153,000
Hull	NA	\$17,000	\$24,000	\$26,000	\$54,000	NA
Lexington	\$802,000	\$72,000	\$102,000	\$109,000	\$227,000	\$575,000
Lincoln	NA	\$16,000	\$23,000	\$24,000	\$51,000	NA
Lynn	\$1,893,000	\$149,000	\$210,000	\$224,000	\$467,000	\$1,426,000
Lynnfield	\$263,000	\$25,000	\$35,000	\$37,000	\$77,000	\$186,000
Malden	\$720,000	\$254,000	\$358,000	\$383,000	\$797,000	(\$77,000)
Manchester	NA	\$10,000	\$14,000	\$15,000	\$31,000	NA
Marblehead	\$174,000	\$44,000	\$63,000	\$67,000	\$140,000	\$34,000
Marshfield	\$330,000	\$41,000	\$58,000	\$62,000	\$129,000	\$201,000
Medfield	\$440,000	\$21,000	\$29,000	\$31,000	\$65,000	\$375,000
Medford	\$1,115,000	\$299,000	\$422,000	\$450,000	\$938,000	\$177,000
Melrose	\$358,000	\$75,000	\$106,000	\$114,000	\$237,000	\$121,000
Middleton	NA	\$9,000	\$13,000	\$14,000	\$29,000	NA
Millis	NA	\$15,000	\$22,000	\$23,000	\$49,000	NA
Milton	\$239,000	\$114,000	\$161,000	\$171,000	\$357,000	(\$118,000)
M. Reading	\$374,000	\$25,000	\$35,000	\$37,000	\$77,000	\$297,000
Mahant	NA	\$12,000	\$18,000	\$19,000	\$39,000	NA
Mattick	\$898,000	\$58,000	\$82,000	\$88,000	\$183,000	\$715,000
Needham	\$600,000	\$57,000	\$81,000	\$86,000	\$179,000	\$421,000
Newton	\$2,043,000	\$373,000	\$526,000	\$562,000	\$1,170,000	\$873,000

APPENDIX I

BREAKDOWN OF LOCAL SALES TAX TAX REVENUE VS. FULL 50% NET COST

	Revenue From Region 1% Sales Tax	50% Net Cost Mo Fare Inc.	Local Surplus (Deficit)	50% Net Cost Rev. = 40% Exp.	Local Surplus (Deficit)
Arlington B	\$2,273,000	\$2,794,000	(\$521,000)	\$2,459,000	(\$186,000)
Ashland F	\$326,000	\$281,000	\$45,000	\$247,000	\$79,000
Bedford G	\$661,000	\$303,000	\$358,000	\$267,000	\$394,000
Belmont B	\$694,000	\$1,432,000	(\$738,000)	\$1,261,000	(\$567,000)
Beverly I	\$1,966,000	\$839,000	\$1,127,000	\$738,000	\$1,228,000
Boston A	\$30,996,000	\$53,710,000	(\$22,714,000)	\$47,278,000	(\$16,282,000)
Braintree C	\$5,636,000	\$1,011,000	\$4,625,000	\$890,000	\$4,746,000
Brookline B	\$2,478,000	\$4,789,000	(\$2,311,000)	\$4,215,000	(\$1,737,000)
Burlington G	\$4,759,000	\$746,000	\$4,013,000	\$657,000	\$4,102,000
Cambridge B	\$6,826,000	\$6,667,000	\$159,000	\$5,869,000	\$957,000
Canton E	\$1,098,000	\$437,000	\$661,000	\$385,000	\$713,000
Chelsea B	\$1,246,000	\$1,239,000	\$7,000	\$1,091,000	\$155,000
Cohasset C	\$512,000	\$154,000	\$358,000	\$136,000	\$376,000
Concord G	\$891,000	\$338,000	\$553,000	\$297,000	\$594,000
Danvers I	\$5,106,000	\$551,000	\$4,555,000	\$485,000	\$4,621,000
Dedham E	\$3,272,000	\$725,000	\$2,547,000	\$638,000	\$2,634,000
Dover F	\$51,000	\$118,000	(\$67,000)	\$104,000	(\$53,000)
Duxbury D	\$272,000	\$242,000	\$30,000	\$213,000	\$59,000
Everett B	\$867,000	\$1,888,000	(\$1,021,000)	\$1,662,000	(\$795,000)
Framingham F	\$6,536,000	\$1,257,000	\$5,279,000	\$1,106,000	\$5,430,000
Hamilton I	\$108,000	\$174,000	(\$66,000)	\$153,000	(\$45,000)
Hanover D	\$1,868,000	\$237,000	\$1,631,000	\$209,000	\$1,659,000
Hingham C	\$1,522,000	\$533,000	\$989,000	\$469,000	\$1,053,000
Holbrook C	\$261,000	\$333,000	(\$72,000)	\$293,000	(\$32,000)
Hull C	\$323,000	\$196,000	\$127,000	\$172,000	\$151,000
Lexington G	\$1,414,000	\$821,000	\$593,000	\$723,000	\$691,000
Lincoln G	\$81,000	\$184,000	(\$103,000)	\$162,000	(\$81,000)
Lynn H	\$5,624,000	\$1,690,000	\$3,934,000	\$1,488,000	\$4,136,000
Lynnfield I	\$576,000	\$280,000	\$296,000	\$247,000	\$329,000
Malden B	\$1,601,000	\$2,885,000	(\$1,284,000)	\$2,540,000	(\$939,000)
Manchester I	\$191,000	\$110,000	\$81,000	\$97,000	\$94,000
Marblehead H	\$718,000	\$505,000	\$213,000	\$445,000	\$273,000
Marshfield D	\$796,000	\$466,000	\$330,000	\$410,000	\$386,000
Medfield E	\$233,000	\$234,000	(\$1,000)	\$206,000	\$27,000
Medford B	\$3,020,000	\$3,396,000	(\$376,000)	\$2,989,000	\$31,000
Melrose H	\$650,000	\$857,000	(\$207,000)	\$754,000	(\$104,000)
Middleton I	\$129,000	\$105,000	\$24,000	\$93,000	\$36,000
Millis E	\$159,000	\$176,000	(\$17,000)	\$155,000	\$4,000
Milton B	\$272,000	\$1,293,000	(\$1,021,000)	\$1,138,000	(\$866,000)
M. Reading G	\$749,000	\$279,000	\$470,000	\$246,000	\$503,000
Mahant H	\$48,000	\$141,000	(\$93,000)	\$124,000	(\$76,000)
Matick F	\$4,272,000	\$663,000	\$3,609,000	\$583,000	\$3,689,000
Needham F	\$1,951,000	\$650,000	\$1,301,000	\$572,000	\$1,379,000
Newton B	\$6,308,000	\$4,235,000	\$2,073,000	\$3,728,000	\$2,580,000
Norfolk E	\$108,000	\$137,000	(\$29,000)	\$121,000	(\$13,000)
Norwell D	\$733,000	\$233,000	\$500,000	\$205,000	\$528,000
Norwood E	\$4,284,000	\$783,000	\$3,421,000	\$689,000	\$3,515,000
Peabody I	\$3,262,000	\$995,000	\$2,267,000	\$876,000	\$2,386,000

APPENDIX I

BREAKDOWN OF LOCAL SALES TAX TAX REVENUE VS. FULL 50% NET COST

		Revenue From Region 1% Sales Tax	50% Net Cost Mo Fare Inc.	Local Surplus (Deficit)	50% Net Cost Rev. = 40%Exp.	Local Surplus (Deficit)
Pembroke	D	\$579,000	\$327,000	\$252,000	\$288,000	\$291,000
Quincy	C	\$4,358,000	\$3,332,000	\$1,026,000	\$2,933,000	\$1,425,000
Randolph	C	\$1,060,000	\$821,000	\$239,000	\$722,000	\$338,000
Reading	G	\$597,000	\$618,000	(\$21,000)	\$544,000	\$53,000
Revere	B	\$1,732,000	\$2,709,000	(\$977,000)	\$2,385,000	(\$653,000)
Rockland	D	\$579,000	\$317,000	\$262,000	\$279,000	\$300,000
Salem	H	\$2,940,000	\$826,000	\$2,114,000	\$727,000	\$2,213,000
Saugus	H	\$3,987,000	\$712,000	\$3,275,000	\$627,000	\$3,360,000
Scituate	D	\$487,000	\$371,000	\$116,000	\$327,000	\$160,000
Sharon	E	\$272,000	\$373,000	(\$101,000)	\$328,000	(\$56,000)
Sherborn	F	\$60,000	\$102,000	(\$42,000)	\$90,000	(\$30,000)
Somerville	B	\$3,089,000	\$4,349,000	(\$1,260,000)	\$3,828,000	(\$739,000)
Stoneham	G	\$854,000	\$494,000	\$360,000	\$435,000	\$419,000
Sudbury	F	\$536,000	\$321,000	\$215,000	\$283,000	\$253,000
Swampscott	H	\$598,000	\$429,000	\$169,000	\$378,000	\$220,000
Topsfield	I	\$203,000	\$134,000	\$69,000	\$118,000	\$85,000
Wakefield	H	\$1,560,000	\$666,000	\$894,000	\$586,000	\$974,000
Walpole	E	\$968,000	\$445,000	\$523,000	\$392,000	\$576,000
Waltham	F	\$4,009,000	\$1,187,000	\$2,822,000	\$1,044,000	\$2,965,000
Watertown	B	\$2,263,000	\$1,871,000	\$392,000	\$1,647,000	\$616,000
Wayland	F	\$457,000	\$317,000	\$140,000	\$279,000	\$178,000
Wellesley	F	\$2,718,000	\$537,000	\$2,181,000	\$473,000	\$2,245,000
Wenham	I	\$51,000	\$79,000	(\$28,000)	\$69,000	(\$18,000)
Weston	F	\$121,000	\$258,000	(\$137,000)	\$227,000	(\$106,000)
Westwood	E	\$447,000	\$375,000	\$72,000	\$330,000	\$117,000
Weymouth	C	\$2,904,000	\$1,501,000	\$1,403,000	\$1,321,000	\$1,583,000
Wilmington	G	\$1,084,000	\$387,000	\$697,000	\$340,000	\$744,000
Winchester	G	\$400,000	\$551,000	(\$151,000)	\$485,000	(\$85,000)
Winthrop	H	\$373,000	\$569,000	(\$196,000)	\$501,000	(\$128,000)
Woburn	G	\$3,537,000	\$899,000	\$2,638,000	\$791,000	\$2,746,000

SUMMARY

A Boston	\$30,996,000	\$53,710,000	(\$22,714,000)	\$47,278,000	(\$16,282,000)
B Inner	\$32,669,000	\$39,547,000	(\$6,878,000)	\$34,812,000	(\$2,143,000)
C So Shore In	\$16,577,000	\$7,881,000	\$8,695,000	\$6,936,000	\$9,640,000
D So Shore Out	\$5,314,000	\$2,193,000	\$3,121,000	\$1,931,000	\$3,383,000
E Southwest	\$10,761,000	\$3,685,000	\$7,076,000	\$3,244,000	\$7,517,000
F West	\$21,038,000	\$5,691,000	\$15,346,000	\$5,008,000	\$16,029,000
G Northwest	\$15,028,000	\$5,628,000	\$9,407,000	\$4,947,000	\$10,080,000
H No Shore In	\$16,498,000	\$6,395,000	\$10,103,000	\$5,630,000	\$10,868,000
I No Shore Out	\$11,592,000	\$3,267,000	\$8,325,000	\$2,876,000	\$8,716,000
MTA District	\$160,473,000	\$127,989,000	\$32,481,000	\$112,662,000	\$47,808,000

Appendix J

Funding for Other Transit Systems

A.1 Use of Dedicated Sales Tax

A 1% sales tax, levied in two of four counties served, accounts for 60% of the operating budget for the Metropolitan Atlanta Rapid Transit Authority (MARTA). By law, 35% of the prior year's operating budget must be covered by fare revenue. Under Georgia law, MARTA is ineligible to receive state transit funds.

The dedicated sales tax referendum was passed in 1971, three years after the voters soundly defeated a proposed dedicated property tax. The sales tax referendum stipulated a low \$.15 fare. Voters favored this provision as a means of counterbalancing the regressivity of a sales tax.

The tax authorizing legislation specifies that 50% of the sales tax revenues must be used for capital expenses and not more than 50% may be used for operating costs. MARTA receives sales tax revenues on a monthly basis to maintain cash flow.

In San Francisco and Oakland, local sales tax revenue represents the largest single source of funding for transit operations in California. In 1971, the Transportation Development Act (TDA) mandated that the local share of a 5% sales tax be 1.25%, with 3.75% going to the state. TDA also made gas subject to the sales tax.

The dedicated sales tax revenue is allotted to individual transit systems by the counties and administered through regional transportation planning agencies.

The California legislature subsequently voted an additional 1/2% sales tax for transit within the three counties that comprise the Bay Area Rapid Transit District (BART).

A.2 Use of Fuel Tax

There are two levels of county gas tax used in Florida. A \$.01 per gallon (maximum) tax may be assessed by county referendum, or a \$.04 per gallon (maximum) tax must be approved by the county's governing body. Using the \$.04 tax, Dade County (Miami) receives annual fuel tax revenues of about \$28 million.

The State Department of Revenue collects all local fuel taxes from wholesalers and returns 94% by formula to cities and counties for a variety of transportation purposes.

A.3 Use of Payroll and Employee Income Tax

In 1970, the Oregon Legislature created Portland's Tri-County Metropolitan Transportation Authority (Tri-Met) with authority to levy a .6% corporate payroll tax on all employers and self-employed persons in the district.(with exemptions for certain non-profit organizations). In 1986, payroll tax revenues accounted for about 64% of Tri-Met's operating budget.

The tax is collected quarterly by the state treasurer and returned to Tri-Met to cover operating costs. No payroll tax money may be used for capital expenses until operating costs are covered.

The tax was implemented in Portland against heavy opposition and legal challenges from the business community.

In 1972, residents of Cincinnati approved a .3% increase in an existing 1.7% employee income tax for the purpose of funding transit. Between 30% and 40% of the annual operating budget of the Southwest Ohio Regional Transit Authority (SORTA), is met by funds from an employee income tax.

A.4 Use of Lottery

The lottery in Pennsylvania was established to benefit elder affairs in the state. Half of the lottery's revenue is allocated to programs (transit and non-transit) which aid older citizens. Transit programs receive less than 10% of the net lottery proceeds, but this amounted to \$67.5 million in 1984.

A portion of the Arizona state lottery is allocated to the Local Transportation Assistance Fund. At least \$20.5 million per year is distributed proportionately by population to cities and towns. Cities with populations above 300,000 must use the funds for mass transit.

Resources for A.1 : E. Walther. Dedicated Funding Arrangements for Public Transit Systems, prepared for UMTA, June 1985.

Resources for A..2 : Rice Center. A Guide to Innovative Financing Mechanisms for Mass Transportation, an Update, for U.S. DOT/UMTA, December 1985; and Rice Center. Alternative Financing for Urban Transportation, for UMTA and FHWA,, October 1983.

Resources for A.3: Windsor, Duane. Administrative Impacts of Private Financing Techniques for Urban Transportation, for U.S. DOT, January 1984; and Rice Center, op. cit.

Resources for A.4 : Rice Center, op. cit.

APPENDIX K

RATINGS OF REVENUE SOURCES BY EVALUATION CRITERIA

	General Sales	Specific Sales	Gas/Toll Parking	Payroll	Lottery
Relation to Benefits	000	00	00000	0000	0
Stability	00000	00	00	00000	000
Public Acceptance	0	000	000	00	00000
Equity: Ability to Pay	0000	00	000	00000	0
Incentive Effects	0	000	000	00	0000
Administration	00000	0000	0000	0	000

KEY:

00000

Highest Rating

0

Lowest Rating

